Lessons Learned
from Virtual Schools:

Experiences and Recommendations from the Field

Edited by:

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iNACOL
International Association for K-12 Online Learning

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For Cherilyn, Owen, and Ethan

and for all the pioneers in education

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Foreword

Virtual schools are a vibrant movement in education reform—extending
the possibilities of learning beyond time and space constraints, and opening
access for all students to a world-class education. Across all fifty states, there
are students taking online courses in 82 percent of K–12 school districts.

Online learning is expanding access to courses in K–12 education and providing a new
network of highly qualified teachers to students in underserved communities. Online learning
has numerous benefits, including expanding course offerings, offering customized and
personalized learning, giving students a second chance to master a subject when they have
struggled, and providing a rigorous, interactive learning model for schools that is data-rich.

Lessons Learned from Virtual Schools: Experiences and Recommendations from the Field is
important because it shows the dynamic models, progress, and pitfalls from the perspective
of many of the state virtual schools and pioneers in virtual learning. As shown in this
book, no two programs are alike. There is complexity and uniqueness in what these virtual
schools do, how they do it, and the stages of growth and progress they have experienced.
Lessons Learned from Virtual Schools seeks to inform others about the existing opportunities,
challenges, problems, and solutions across supplemental programs and virtual schools.

Virtual schools are emerging as a powerful force for designing new educational experiences and changing the notion of what is possible. Virtual schools offer a glimpse into the future through new models for digital curriculum, performance-based assessment, and technology platforms—and serve an important function while shedding light on early and emerging transformations in next generation learning.

We are grateful to the authors of this book for sharing their pathway—their vision, 20/20 hindsight on lessons learned, identification of crossroads, and willingness to walk us down their "road less traveled"—to motivate us to make a difference.

Online and blended learning is a disruptive innovation that is powerful—and for kids, learning online comes naturally. It is time to empower students with next generation learning and to realize that the revolution in digital education is underway. Thanks to the pioneers who are leading the way and for dedicating their professional lives to enhancing student-centered approaches in virtual schools across the country.

> *—Susan Patrick is the president and CEO for the International Association for K–12 Online Learning (iNACOL). iNACOL's mission is to strive to ensure all students have access to a world-class education and quality online learning opportunities that prepare them for a lifetime of success.*

Preface

Lines between classroom learning and online learning have begun to disappear in many schools and classrooms worldwide. It has almost become redundant to use the phrase "online learning" because it is difficult to imagine academic learning that does not happen with the support of networked experiences. To reach this day, many pioneers in K–12 online learning have led educators in understanding what constitutes effective practice in online and blended environments that are now so much a part of most K–12 settings. Innovators in online and classroom education have also pushed the boundaries and have become fluent in teaching with social networking tools, multi-user games, and augmented reality environments.

This book brings together the voices of many of those educators and leaders in statewide and multi-state virtual schools who share their knowledge of what has worked in their K–12 online education programs over their histories. They provide examples of approaches that have been effective in courses, professional development, program design, and management. They address instructional and technical successes in their schools. This book represents a first collected history and set of lessons from the leaders of 13 virtual schools that serve students across district and state boundaries.

The stories and strategies included are intended to assist anyone working in a K–12 online program in choosing proven approaches. This book also offers ideas for educators in physical schools who seek ways to bring their programs further into the online world. The chapters each represent a school's unique experience, based on its educational, funding, and policy context. Readers will learn from both the individual stories of each school and the common elements shared among many schools.

Throughout the book, the authors address a core of common issues. Their shared concern is supporting and improving online education policy and practice and improving the quality of online education for students in the wide variety of full-time, blended, and supplementary online education programs operating in the United States today. These stories speak to a variety of audiences:

- Virtual school leaders will have models of success on which to draw in program planning

- Virtual school educators will have examples of effective approaches to teaching

- Pre-service educators will have insight into new career paths

- Instructional designers will have guidelines for course development

- Researchers will have an understanding of the range of settings where online teaching and learning occur

- Policymakers will have cases on which to base decisions in local, regional, state, and national levels

- Parents will have information to guide their selection of schooling for their children

Our hope in developing this book is that readers will have a refined understanding of the complexity and quality present in virtual schools along with the specific information they need to guide their work. We understand that there are multiple definitions of virtual schools, and not all virtual schools are represented here. For instance, this book has focused on state-led and multi-state consortium models primarily serving public schools; there are many charter and full-time programs that also deserve inquiry. However, this book is intended to form a foundation for decision-making, further study, and improved practice that benefits students nationwide and would inform future inquiry into all types of K-12 online and blended education. The stories gathered here are a sample of the stories that could be told by the hundreds of virtual school pioneers in the United States. These stories represent the state and multi-state perspective. They present some of the issues and opportunities that impact public education today, and they set the stage for the broader changes facing education in the near future.

About the Editors

Richard Ferdig, Ph.D., is the RCET Research Professor and Professor of Instructional Technology at Kent State University. He works within the Research Center for Educational Technology and also the School of Lifespan Development and Educational Sciences. He earned his Ph.D. in educational psychology from Michigan State University. At Kent State University, his research, teaching, and service focus on combining cutting-edge technologies with current pedagogic theory to create innovative learning environments. His research interests include online education, educational games and simulations, and what he labels a deeper psychology of technology. In addition to publishing and presenting nationally and internationally, Ferdig has also been funded to study the impact of emerging technologies such as K–12 Virtual Schools. Rick is the editor of the *International Journal of Gaming and Computer Mediated Simulations*, the associate editor of the *Journal of Technology and Teacher Education*, and currently serves on the Development Editorial Board of ETRD and on the Review Panel of the *British Journal of Educational Technology*.

Cathy Cavanaugh, Ph.D., is associate professor of educational technology in the School of Teaching and Learning at the University of Florida, teaching in the areas of instructional design and distance education. She was the recipient of the Outstanding Research Award in 2009 from the International Association for K–12 Online Learning for her publications on virtual schools effectiveness. She has degrees in education from the University of South Florida, University of Central Florida, and University of the Virgin Islands. Formerly a secondary science teacher, Cathy has been an educator in K–12 and adult settings since 1982.

Acknowledgements

There are other people and groups that need to be thanked. First, the idea for this book began in 2006. Kim Mulkey, Andrew Henry, and I (Rick) had just visited a large number of K–12 state-led virtual schools. As we spoke, we realized that much of what was happening across the states was similar; however, many of the states did not realize that their counterparts were dealing with the same issues. We also found that there were certain issues that were unique to a state that might positively impact other states; we called this the 80/20 principle. We spent the next few years trying to share those stories and best practice outcomes between states.

As such, Kim Mulkey, Andrew Henry, and the rest of the project team need to be thanked for their work. Kim spent countless hours on the Virtual School Clearinghouse project (*http://www.vsclearinghouse.com)*, helping schools collect data, organizing events, and contacting school leaders. Meredith DiPietro and Erik Black were the original scholars on the grant, working through numerous data organization issues. And, thanks also goes to the extended project team of Kashif Imran, Nate Poling, Jeff Boyer, Megan Preston, Natalie Meza, and Megha Kokane.

The second and perhaps the most important group are the virtual schools who engaged us in this work. They spent hours fine-tuning their chapters, providing changes based on our review, and then updating the chapters to include the most recent data. Thank you for your trust and your efforts.

Finally, we would like to thank the scholars engaged in K–12 virtual schooling research. You have continued to push our thinking. We look forward to working with you in supporting the important work of our virtual schools. This obviously includes the critical work of the International Association for K–12 Online Learning (iNACOL). We appreciate the leadership of Susan Patrick and the book support provided by Allison Powell and Wendy Fleming.

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An Introduction and Overview of K–12 Virtual Schooling

Cathy Cavanaugh, University of Florida

Meredith DiPietro, University of North Carolina—Charlotte

The evolving ubiquity of the Internet and telecommunication technologies introduces new mediums and methods for communication and interaction. The proliferation of these technologies also challenges the limitations of traditional methods of teaching and learning. Examples are the virtual school programs—emerging providers of K–12 education—which were developed in response to the need to transcend limitations of time and place. They were also created to increase the access and availability of courses to students. Such online learning programs present an opportunity to develop students' competencies in the 21st Century Skills necessary for participating in the evolving electronic, global community.

State-operated and interstate public virtual schools represent the largest segment of virtual schooling in the United States by enrollment. As of 2009, eight of the largest state virtual schools enrolled 300,000 students, accounting for approximately a third of

virtual school students (Watson, Gemin, Ryan, & Wicks, 2009). The complex nature of virtual schools presents a challenge to researchers seeking to develop a better understanding of their form, function, and effectiveness (Cavanaugh et al., 2004; Dickson, 2005). The complexity of virtual schools as an educational environment stems from the multitude of interacting factors that serve as the foundation of their existence. There are internal factors that contribute to the virtual schools' complex nature, such as their organizational structures, courses, students, and teachers. Adding to this list are the external factors that impact the functioning of virtual schools, such as the governing policy, parents, and contacts within students' local communities that serve as additional support structures. In order to develop an understanding for the bigger picture of virtual schooling, there is a need for research that focuses on the underpinning variables (Mulkey, Polling, Ferdig, & Black, 2008).

[1]*School and Virtual School:* School data variables provide demographic and governance information necessary to understand the administrative size and format that provides a basis for operations.

Teacher: Teacher variables provide demographic and career-related information proven to have correlative value to pedagogical success in online educational environments. These data elements, coupled with standard student feedback in the form of grades and teacher evaluations, have the potential to provide opportunities for recognizing success and capitalizing on improvement in online classrooms.

Student and Performance: Student and performance data variables focus on factors related to the student and student performance. In addition to demographic variables, data within this category can provide a picture of students' readiness for learning before engaging in instruction, a method for gauging just-in-time adjustments during the course of an instructional period and post-hoc measurements for assessment of student progress. Post-hoc assessment is useful when making comparisons between differing educational environments.

Course and Course Instance: Course or content data address the basic descriptive factors associated with an online course and its correspondence with state and national curriculum standards. Course instance variables attend to features unique to individual course experiences, including class size, beginning and end dates, and learning outcomes.

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[1] For a complete discussion of these variables, as well as analytic tools, visit *http://www.vsclearinghouse.com*.

The range in the ways in which the schools operate represents small differences around the core of the work that happens between students and teachers on a daily basis. In 2006, Richard Ferdig was awarded a grant from the BellSouth Foundation to study state-led K–12 virtual schools (*http://www.vsclearinghouse.com*). The very first activity was for project members Rick Ferdig, Andrew Henry, and Kim Mulkey to visit each of the schools in the nine-state BellSouth region. At the conclusion of the multi-state trip, the team summarized their experience as the "80/20 principle": 80 percent of what they found happening in a virtual school was common across schools and was based on a shared foundation of effective teaching and management. The remaining 20 percent of what was happening in a virtual school was unique to that school as a result of the school's unique context, the special talents of the personnel, unusual problems that have arisen, or innovations that have been implemented.

Our collective experience has been that the 80/20 principle applies to all of the virtual schools with which we have interacted. What is most fascinating about this principle, however, is that virtual schools across the nation—even those in adjoining states— may or may not be aware of what is happening elsewhere. Therefore, they may be unaware that the problems they are trying to solve have been addressed already. They may also be unaware that problems and opportunities are unique to their state—or to another state—and thus seeking help elsewhere can be complex.

Developers, designers, educators, and administrators who are new to virtual schooling will benefit from the full 100 percent of a school's story. This book is intended to streamline the work of those who are starting new virtual schools. We hope that readers who are veterans in virtual schooling will grow in the appreciation that much of their current work has impacted, can impact, or is currently being built upon by others. We also hope they pick up new ideas from the 20 percent of each school's story that varies from their own experience. Anyone in education, virtual schooling included, will readily admit that we don't have it right yet and there is still much to learn.

Brief History of K–12 Virtual Schools

The prevailing legislative and funding models in American education have established local schools that were largely locally funded to operate under the jurisdiction of state education law. States typically did not establish schools that were fully and directly funded by the state except in cases of extreme need that could not be adequately met at the local level because of the costs and the requirement for specialized expertise or facilities. In these cases, states established and funded schools that served the entire state for a specific purpose. Historically, these purposes were the equitable education of relatively small numbers of students who had special needs. For example, in the 1800s, many states created residential schools for students with developmental disabilities, for the deaf and blind, for detention, and for orphans and abused children. As demand grew for other specialized forms of education, states began forming residential schools for the arts, mathematics, science, and talented students.

A tandem to this trend of state-operated schools emerged in the early 1900s for states to operate distributed schools that would benefit high-need populations in local areas. Examples of these schools are the state correspondence and independent study schools that served rural areas, sometimes in association with state universities. Some of the distributed schools transformed during the 1980s and 1990s into video and satellite programs, such as the Iowa Communications Network (Clark, 2007). Today's K–12 virtual schools are the digital age version of state solutions to problems of educational inequity.

However, not all states have state-led or otherwise state-supported virtual schools, and in states that do operate virtual schools, the establishment of charter-based virtual schools or for-profit virtual schools has not been a smooth process within each state's respective legislative and public spheres. Indeed, the role of government in the control of schooling has long been a source of contention in the United States. In the mid-1800s, John Stuart Mill argued that the state should not provide education on more than a small scale because of the difficulty in agreeing on common objectives and the danger of "molding people to be exactly like one another" (In Curran, 2007, p. 151). More recent counterarguments for a broader education system propose that in a globalized society, citizens need a common foundational set of experiences and, further, that student individuality is nurtured through the array of differentiated curricular choices afforded by a comprehensive school, as well as the menu of extra-curricular activities available to most students.

Among the benefits of a school or system of education that extends beyond the neighborhood or school district is the potential for a school in which diverse groups of students are gathered to learn in ways that encourage tolerance. Rousseau stated this philosophy in *The Education of Nature*. "Every particular society, when it is narrow and unified, is estranged from the all-encompassing society. Every patriot is harsh to foreigners" (In Curran, 2007, p. 44). Economist Milton Freidman goes so far as to say that a nationalized education system might be the best way to "provide the common core of values deemed requisite for social stability" (In Curran, 2007, p. 196).

The opportunity offered by K–12 virtual schools to expand access to a free, appropriate public education has ignited interest from researchers, policymakers, and educators. K–12 virtual schools have demonstrated rapid growth and are emerging as a focus of national interest. National mandates, such as the No Child Left Behind Act, draw ever more attention to virtual schools as a means for offering students 'school choice' (Cavanaugh, Gillan, Kromrey, Hess, & Blomeyer, 2004; NCES, 2005; Watson, Winograd, & Kalmon, 2004). The National Educational Technology Plan (2010) identifies the critical role of e-learning and online education in providing anytime, anywhere education for the nation's students and preparing them to join a global technological workforce.

The goal of this book is to articulate the educational context of virtual schools by highlighting 'best practices' collected from virtual schools across the country and inform the direction of future research and policy related to virtual schooling. It is likely that enrollment in virtual schools will continue to grow but will not exceed the number of students enrolled in face-to-face schools. However, the effective educational practices that have been refined over the past fifteen years in virtual schools will pave the way for blending online experiences with classroom experiences in schools.

Virtual School Research: A Summary

Virtual K–12 education programs are abundant, and we have learned much from their first fifteen years. Lessons from research and practice have built in complementary ways to inform the next generation of online and blended education programs. To this point, research efforts and stories from practice have been told based on small-scale investigations, generally at the level of a single course or school program. As a field, we have acquired essential insights into effective practices based on this body of research and reports from practitioners.

With the advent of the first K–12 online education programs in the mid-1990s, a steady and increasing stream of research studies has illuminated quality in course design, teaching, and leadership. Individual studies and syntheses of research throughout the past fifteen years have answered the question of whether online education is effective by showing consistently that it is at least as effective as classroom-based methods (Cavanaugh, 2001; Shachar & Neuman, 2003; Bernard, Abrami, Lou, Borokhovski, Wade, Wozney, & Huang, 2004; Cavanaugh, Gillan, Kromrey, Hess, & Blomeyer, 2004). It is less clear precisely which practices are most likely to result in learning gains for specific students in specific content areas, but evidence for promising practices has accumulated.

Increasing evidence is showing that student motivation, beliefs about success, persistence, and time in the learning environment predict success in online courses (Roblyer & Marshall, 2003; Ferdig, DiPietro, & Papanastasiou, 2005; Liu & Cavanaugh, 2010). Course designs and teachers that foster these attitudes and behaviors will improve learning outcomes across student demographic groups (Liu & Cavanaugh, 2010). In addition, courses designed with well-structured, collaborative projects that make use of a range of media and communication methods will foster high-level thinking (Barman, Stockton, Ellsworth, Gonzales, Huckleberry, & Raymond, 2002; Weiner, 2003; Haughey & Muirhead, 2004; Schnitz & Azbell, 2004; Smouse, 2005; Dawson, Cavanaugh & Ritzhaupt, 2008). Opportunities to practice with authentic tools of the discipline are also associated with greater achievement of content objectives (Cavanaugh, Bosnick, Hess, Scott, & Gillan, 2005; Hwang, 2005).

Beginning in 2008, the U.S. Department of Education began investing in large-scale research in K–12 online education. The foundational study was a synthesis of prior research, released in 2009, which established specific priority areas for the studies that followed. The series of studies examined effective course design and teaching in the years that followed. This research informed practice in established virtual schools, as well as in emerging online and blended programs, and it is shaping the reauthorization of the Elementary and Secondary Education Act in 2010 and 2011.

There is still much to be learned about the design of effective online and blended learning environments that we will continue to learn from the double helix of research and practice. Knowledge is still needed related to several aspects of virtual education (Smith, Clark, & Blomeyer, 2005; Rice, 2006; Barbour & Reeves, 2009; Cavanaugh, Barbour, & Clark, 2009):

- Determining how learning in virtual environments can exceed place-based environments

- Increasing student engagement in learning and mastery of competencies

- Improving student independence as learners and leaders

- Preparing students for academic success online

- Understanding the interactions among content demands, student factors, and affordances of the learning environments with attention to students in at-risk and special needs groups

- Implementing authentic, collaborative assessment practices

- Using comprehensive data to improve programs

- Effective methods of preparing teachers for the range of roles in online and blended course development and facilitation

- Comparative costs of online and blended programs

This book represents a step in scaling up the practice-based literature on effective online education. Only from sharing the lessons learned in the schools themselves, where research findings are both applied and generated, can the field make efficient progress on behalf of students. The stories collected in this book are told from the perspectives of the pioneers and leaders of some of the largest and longest-established virtual school programs. These stories show the many forms a successful K–12 online education program can take and how the design of each program fits its purpose, audience, and setting. As Blomeyer stated in his review of K–12 online learning, "online learning or e-learning isn't about digital technologies any more than classroom teaching is about blackboards. E-learning

should be about creating and deploying technology systems that enable constructive human interaction and support the improvement of all teaching and learning" (2002, p. 19). The virtual schools profiled in this book have each developed a supportive environment that has enabled the learning of thousands of students. Their stories are important foundations from which to build the next online and blended learning environments.

Learning from K–12 Virtual Schools

Over the past decade we have seen the birth of a new form of state-operated school that has local, state, and international reach. This book begins with an introduction to the virtual schooling landscape. The remainder of the book is a collection of the lessons learned and best practice stories from virtual schools. Each school context is unique; therefore, each school's story offers unique insights, strategies, and solutions. The thirteen state stories collected in this volume demonstrate the range in state virtual schooling today, varying in their size, age range of student population served, and type of programs offered.

Leaders from each virtual school highlighted in this book collaborated with the editors to present their school's story to showcase its strengths and the special conditions within which it operates. Core themes are used to focus the content of each chapter and provide the reader with an opportunity to identify points of similarity and distinction among the virtual schools' stories. The narrative addressing each of the themes listed below provides a basis for understanding the historical, administrative, and instructional context for each virtual school story.

Historical Perspective and General Overview

This section will provide a 'big picture' view of the virtual school presented in the chapter. An overview of the school's history, including how and why it was established, its foundational funding model, and its relationships with partners and other organizations is presented. Additional topics addressed in this section:

- Preparation and professional development of teachers and other staff, including the role of endorsements and/or certifications, as well as induction supports such as mentoring, co-teaching, etc.

- Roles of individuals who support students and teachers: parents, administrators, site coordinators, tutors, guidance counselors, technical support, media specialists, etc.

- Teacher staffing practices, including students per teacher, number of courses per teacher, etc.

Administration and Policy

In this section, school leaders describe the virtual school's administrative and instructional organization, touching on who the students are and how their needs are served. Information regarding the functional structure of the virtual school, such as how credits are distributed, relationships to onsite schools, and the state educational system, is also included in this section. Additional topics addressed in this section:

- Use of multiple sources of student and teacher performance data, including visual representation of data

- Effectiveness of models of pacing, scheduling, and facilitation, including self-paced courses, teacher-led courses, facilitator-supported courses, etc.

Outcomes and Lessons Learned

This section will present the outcomes and lessons learned through the evolution of the virtual school to achieve its current successes. Details regarding the positive and negative outcomes of various strategies implemented to address changes in enrollment, teacher retention, and student-based outcomes are presented in this section.

Best Practices

This section will present the range of educational opportunities offered by each virtual school in relation to student success. A gallery of the school's best practices ranges from the student and instructor support strategies to the various technology tools and resources used to support course delivery. Additional topics addressed in this section:

- Contribution of new technologies to teaching and learning, including games, social networking tools, etc.

- Best practice for online pedagogy, including discussions, feedback, etc.

- Effects of differentiated instructional approaches for various age groups, student characteristics, and content areas

Future Plans

This section will present the virtual school's plans and dreams for expanding on its mission, goals, and effectiveness. Information in this section addresses future plans in relation to administration, pedagogical strategies, course delivery, student/instructor support, and technology.

This book assembles the stories of thirteen diverse state virtual schools and one national virtual school consortium, listed in the following table.

School	Online Location	Years Operating	Purpose
Alabama ACCESS Distance Learning program	http://accessdl.state.al.us/	Since 2004	Provides supplemental courses, serving primarily AL public schools
Colorado Online Learning	http://www.col.k12.co.us/	Since 1998	Provides supplemental courses, serving primarily CO public schools
Florida Virtual School	http://www.flvs.net/	Since 1997	Provides supplemental courses and a full-time program
Georgia Virtual School	http://www.gavirtualschool.org/	Since 2005	Provides supplemental courses, serving primarily GA public schools
Idaho Digital Learning Academy	http://www.idahodigitallearning.org	Since 2002	Provides supplemental courses, serving primarily ID students
Louisiana Virtual School	http://www.louisianavirtualschool.net/	Since 2000	Provides supplemental courses, serving LA students
Michigan Virtual High School	http://www.mivhs.org/	Since 2000	Provides supplemental courses, serving MI students
Missouri Virtual Instruction Program	http://www.movip.org/	Since 2007	Provides supplemental courses and full-time programs, serving MO students
North Carolina Virtual Public School	http:// www.ncvps.org/	Since 2002	Provides supplemental courses, serving NC public schools
South Carolina Virtual School	http://scvspconnect.ed.sc.gov/	Since 2006	Provides supplemental courses, serving SC students
Tennessee e4TN	https://www.e4tn.org/cms/	Since 2006	Provides supplemental courses, serving TN students
Texas Virtual School	http://www.texasvirtualschool.org/	Since 2000	Provides supplemental courses to public school districts and open enrollment charter schools
Virtual High School	http://www.govhs.org/	Since 1997	Provides supplemental courses

Virtual Schooling: Future Steps

As a result of the sharing that happens through this book and others, through organizations such as the International Association for K–12 Online Learning, and through events like the Virtual School Symposium, we believe the practice of virtual schooling will progress. Practitioners will adopt new practices and researchers will move closer to answering the vexing questions of the field.

This book is a snapshot of state virtual schools a little over ten years after the first ones welcomed students through their portals. If the next edition of this book is published ten years from now, it is likely that virtual schooling will look very different from the way it looks today and the way it looked ten years ago. Every aspect of K–12 education is changing, and the need for new knowledge and solutions is greater than ever.

What are the most urgent needs in virtual schooling? What are the best opportunities for virtual schools to serve the needs of children in the United States and elsewhere? Where should the field be going from here?

Virtual school educators working in concert with researchers have the innovative ideas, the data, and the means of analysis and interpretation to investigate these questions and in doing so to improve educational outcomes for students in virtual schools today and in the future. Beyond that, gaining insight into these educational issues informs practice in face-to-face and blended environments, as well as in virtual schools. Based on the knowledge that teachers who learn to use effective online teaching practices also improve their face-to-face teaching, it stands to reason that advances in the realm of virtual schooling will advance all of K–12 education.

As K–12 education moves away from strict divisions between online and face-to-face toward a system in which each student will be able to choose from a continuum of delivery options, the proven practices developed in virtual schools will become the foundation for mainstream educational practice. No longer will face-to-face educators learn to teach online; all educators will learn to teach in all environments. The best practices in these chapters are lessons for all of us who work as teachers, administrators, support staff, teacher educators, researchers, and policymakers.

The National Landscape of K–12 Online Learning

John Watson, Evergreen Education Group

Online learning at the K–12 level is now in the early stages of its second decade. The transformation of education that has taken place in the last ten years has been truly remarkable. Education at the K–12 level is not known for rapid change, yet recall that in the mid-1990s the World Wide Web was in its infancy, and consider the changes that have happened in just over a decade.

- Nearly all states now have significant online learning opportunities available to students across the state. As of early 2010, 45 states plus Washington, D.C., had either state virtual schools offering supplemental online options for students or full-time online schools in which students could enroll (see Figure 2-1).

- School districts are increasingly offering full-time or supplemental online offerings to their students.

- About half of all states offer statewide, full-time online schools for students who wish to take their entire course load online.

- In addition to the spread of online learning programs to most states across the country, the majority of existing online programs show considerable growth in the number of students they are serving. Online learning overall is growing at a rate of about 30 percent annually, and many individual schools are expanding at similarly rapid rates.

The increase in online learning has created countless new educational opportunities for students to take courses that were not previously available to them in subjects ranging from core courses to electives such as Mandarin Chinese. It has allowed rural school districts to provide access to highly qualified teachers in courses that the district could not previously offer, and it has allowed students and parents the flexibility of a new educational option.

The dramatic growth in online learning at the K–12 level mimics the migration of post-secondary education and corporate training to the online world. In addition, it is appropriate for—and often expected by—millennial students who are far more accustomed than their parents to going online to socialize, download music, watch videos, and more.
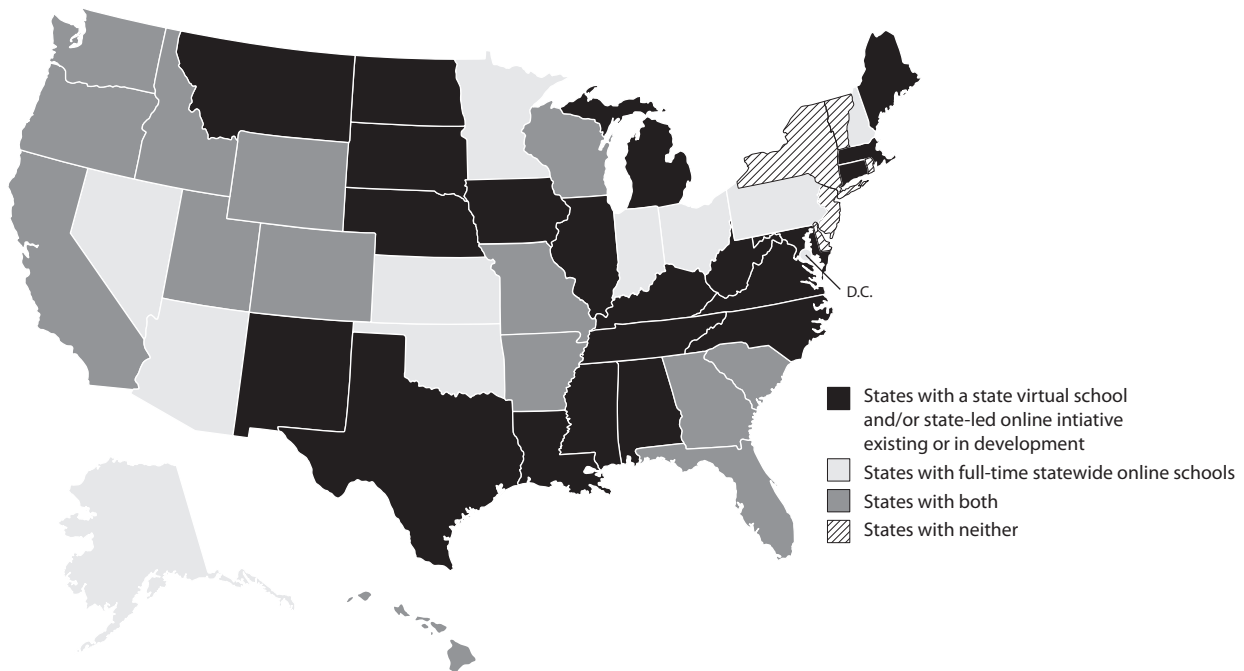
Figure 2-1: The national online learning landscape: as of early 2010, 45 states have a state virtual school, full-time online schools, or both.

What is online learning?

Many terms and definitions in the field, such as online learning, e-learning, and virtual schools, do not have commonly understood definitions. This book is focused on distance learning that takes place via the Internet, both in real time (synchronous) and not (asynchronous), and uses the term "online learning" to describe this method of education. This type of learning includes video, text, audio, and simulations that are delivered via the Internet but not through other channels such as video conferencing. Whatever term is used to describe it, online learning is being used in many ways, including:

- Expanding the range of courses available to students, especially in rural and inner-city schools, beyond what a single school can offer;

- Providing highly qualified teachers in subjects where qualified teachers are lacking;

- Providing scheduling flexibility to students facing scheduling conflicts;

- Affording opportunities to at-risk students, elite athletes and performers in the arts, dropouts, pregnant or incarcerated students, and students who are homebound due to illness or injury, allowing them to continue their studies outside the classroom;

- Addressing the needs of the millennial student, as the online medium is consistent with these students' expectations and interests;

- Increasing the teaching of technology skills by embedding technology literacy in academic content; and

- Providing professional development opportunities for teachers, including mentoring and learning communities.

Online Learning: the Basics[1]

Online courses are delivered via a software package called a learning management system (LMS). An LMS has numerous features, typically including tools that allow synchronous (i.e., real time) and asynchronous communication, assessment tools and automatic grading capability, tracking of student activity, and course structure that divides content into lessons and units.

Many courses use offline materials, including textbooks and hands-on materials, to complement the content delivered via the Internet. The type of course, and teacher preferences, determine to what extent certain features are used. An English course might rely heavily on online and offline text, a Spanish course might rely on audio clips so that students can hear proper pronunciation, and a biology course might use animations demonstrating cell division in a way that no paper textbook can match.

Some asynchronous courses are self-paced, in which a student starts and ends at any time, and proceeds through the course at whatever pace is deemed appropriate by the teacher. Other courses have start and end dates so that students go through as cohorts and pass certain milestones together, allowing for easier coordination of class discussions and projects.

Course content may include text, graphics, video, audio, animation, and other interactive tools. It may be online or offline, with offline content usually being paper textbooks, other books such as novels for an English class, or journal articles for a science class.

While computers and software are closely associated with online learning, teachers remain the central part of learning in most online classrooms. The online teacher's role can fall into several

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[1] This section loosely adapted from a series of state and national online learning reports including the California e-Learning Report, The Michigan Online Learning Report, and A National Primer on K-12 Online Learning. A second edition of the National Primer has recently been released by the International Association for K-12 Online Learning, *www.inacol.org*.

categories, with some of these tasks sometimes being accomplished by teams of teachers, instructional designers, or content specialists who may not actually teach the individual course. These tasks include developing the online course content and structure, communicating with students at the start of the course and consistently throughout the semester, guiding and individualizing learning, and assessing, grading, and promoting students.

A key challenge for online programs is providing effective support to their students. Support needs include both technical (e.g., issues of accessing the course, problems with computers or software, etc.) and academic (e.g., issues with the course content, tutoring, and counseling). The ways in which student support is provided depend on the online program; many supplemental online programs depend on the local school from which the student is accessing the online course to provide a mentor or facilitator.

While teachers remain a key part of learning online, the role of the online teacher may be different from the role of a teacher in a physical classroom. When digital content is tied to adaptive learning, the learning can become individualized for each student at a level that is not possible for most classroom teachers to achieve. The ways in which online, and blended, learning can be individualized for students is one of the reasons that individual districts are adopting online learning even when students have access to a wide array of courses and teachers in the classroom.

Types of Online Courses

The Defining Dimensions of Online Programs

Dimension					
Comprehensiveness	Supplemental program (individual courses)			Full-time school (full course load)	
Reach	District	Multi-district	State	Multi-state	National	Global
Type	District	Magnet	Contract	Charter	Private	Home
Location	School		Home		Other	
Delivery	Asynchronous			Synchronous		
Operational Control	Local Board	Consortium	Regional Advisory	University	State	Independent Vendor
Type of Instruction	Fully Online		Blending Online and Face-to-Face		Fully Face-to-Face	
Grade Level	Elementary		Middle School		High School	
Teacher-Student Interaction	High		Moderate		Low	
Student-Teacher Interaction	High		Moderate		Low	

Figure 2-2: Defining dimensions of online programs. (*Keeping Pace*, 2009; previously adapted from Gregg Vanourek, "A Primer on Virtual Charter Schools: Mapping the Electronic Frontier," Issue Brief for National Association of Charter School Authorizers, August 2006)

Online programs and courses vary among numerous dimensions. Programs and schools may be:

- Full-time (the main school which students attend) or supplemental (providing one or a few courses to students attending a physical school)

- Available to students in a single district or across an entire state, or even multiple states and countries.

- Operated by a school, district, or charter organization or as an independent non-profit organization.

- Courses may be:

  - Fully online or a blend of face-to-face and online components

  - Synchronous or asynchronous

  - Highly interactive between students and teachers or among students, or less interactive

Each of these variables has implications for policy and practice. Because online learning is still relatively new, data to suggest that one type of approach is better than another are limited.

The National Online Learning Landscape

Among the many potential types of online programs, a few key categories exist.

- State virtual schools, such as the Florida Virtual School, Michigan Virtual School, and Idaho Digital Learning Academy, provide supplemental online courses to students across their respective states. These programs are often the most high-profile online program in their states.

- Multi-district online schools: These schools are full-time and usually serve students from across an entire state. Many of these, but not all, are charter schools. Many of these schools are managed by Education Management Organizations that operate nationally, including Connections Academy, Insight Schools, and K12 Inc. Unlike most state virtual schools, these full-time online schools are responsible for students' state assessment scores and Adequate Yearly Progress under No Child Left Behind.

- Single-district programs: These programs are run by school districts primarily for students who reside in the district, and may be full-time or supplemental.

These programs may be run in conjunction with a content provider or management organization such as Advanced Academics or APEX Learning.

■ Consortium programs: Consortium or network programs include the Virtual High School Global Consortium and Wisconsin eSchool Network. These programs recognize that there is value in economies of scale, in combining resources to create online courses, train teachers, and provide student support, and are demonstrating that such programs do not necessarily have to be run at a state level or by a state education agency.

Online programs run by individual school districts for students residing in that district are a rapidly growing segment, but relatively little is known about district programs compared to state virtual schools and online charter schools. In most states, single-district online programs are not required to disaggregate data for online students and courses.

State Virtual School Attributes

In many states, the state virtual school is the largest single provider of supplemental online learning opportunities. State virtual schools are created, funded, or implemented by the state legislature or a state agency. They are usually mostly or entirely supplemental, serve mostly middle and high school students, and typically work with local schools that grant course credit and award diplomas. Most hire part-time teachers for the majority of their courses, although some have full-time teachers. Courses in these programs may be licensed from outside vendors or developed by the program, or a combination of both. They are usually funded by state appropriations that are independent of the number of course enrollments, and they often charge course fees to the districts placing students in the online courses.

There are several different organizational models for state virtual schools, including:

■ Within/under the state education agency (many fall into this category, including Alabama ACCESS)

■ As a separate government agency (Idaho Digital Learning Academy)

■ Within/under the State Board of Education (Illinois Virtual School)

■ As an independent entity (Michigan Virtual School)

■ As a separate local education agency or school district (Florida Virtual School)

These models are not necessarily static; a program can evolve from one model to another. Colorado Online Learning evolved from a consortium of districts into an independent entity, and the Florida Virtual School began as a project between

two school districts, then was supported by appropriations over several years, and now is funded by state public education full-time equivalent (FTE) funds.

There are advantages and disadvantages with each type of organization. The most common model, with the state virtual school housed in the state education agency, offers the benefit of efficiencies and economies of scale, reduction of duplication of resources and expense across the state, and the ability to take advantage of agency offices and services, such as general counsel, public relations, and office space, often at reduced or no cost to the program. The main downside to being part of the state education agency is in possible restrictions, such as in state procurement and contracting policies and the need to vet decisions through a formal and perhaps lengthy command structure, which can limit flexibility and growth.

Because most state virtual schools are supplemental, they are not responsible for student participation in state assessments. They are, however, responsible for student achievement in various other ways. In many cases, because a student's participation in online courses is at the discretion of the local school, the school's decision to allow participation and grant credit becomes the oversight mechanism. The Georgia Virtual School is unusual in that its students take end-of-course exams that are common across the state and tracked by the state, potentially allowing for a comparison of test scores of students in online courses against state averages. Advanced Placement courses also have end-of-course exams, and some state virtual schools track the results of their students' AP exams.

Because students and districts participate in online programs by choice, many practitioners feel that the ultimate sources of accountability are the students and districts that participate in the programs. Growing in response to increased demand is perhaps the best measure of accountability for these programs.

Full-Time Online School Attributes

Full-time online schools differ from supplemental programs in several important ways. Most importantly, most of these programs are schools that are directly responsible for the achievement of their students via the mechanisms of NCLB such as state assessments and measures of Adequate Yearly Progress. Because they are the primary (or only) source of their students' educations, they must address any special needs of students who have disabilities or are at risk. In addition, online schools often facilitate socialization of their students in order to address concerns about full-time online students not having the opportunities to interact with other students in social situations.

Key Issues in Online Learning

All online programs, regardless of model, share a common set of challenges and concerns. These issues are introduced in this section and are discussed in more detail in the chapters that follow.

Course quality

Online courses are subject to state content standards, but many policymakers and practitioners have recognized the need for standards that are specific to online courses. In September 2007, the International Association for K–12 Online Learning (iNACOL) released its *National Standards of Quality for Online Courses*[2], which are based on the Southern Regional Education Board's *Standards for Quality Online Courses*. The standard's recommendations fall into several categories:

- Content

  - The course goals and objectives are measurable and clearly state what the participants will know or be able to do at the end of the course.

  - Course tasks and assessments align with the required local, state, and national assessments that are associated with the course.

  - The course content and assignments are of sufficient rigor, depth, and breadth to teach the standards being addressed.

- Instructional design

  - Course design reflects a clear understanding of student needs, and incorporates varied ways to learn and multiple levels of mastery of the curriculum.

  - The course is organized into units and lessons.

  - Instruction provides students with multiple learning paths to master the content, based on student needs.

- Student assessment

  - Student evaluation strategies are consistent with course goals and objectives, representative of the scope of the course, and clearly stated.

  - The course structure includes adequate and appropriate methods and procedures to assess students' mastery of content.

  - Ongoing and frequent assessments are conducted to verify each student's readiness for the next lesson.

- Technology

  - The course architecture permits the online teacher to add content, activities, and assessments to extend learning opportunities.

  - The course makes maximum use of the capabilities of the online medium and makes resources available by alternative means; e.g., video, CDs, and pod casts.

  - Hardware, Web browser, and software requirements are specified.

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[2] Available at *http://www.inacol.org/research/nationalstandards/index.php*. The standards listed are direct quotes from the iNACOL document and are a subset of the full list of standards.

- Course evaluation and management

  - The results of peer review and student evaluations of courses are available.

  - Course provider uses multiple ways of assessing course effectiveness.

  - The course is evaluated regularly for effectiveness, and the findings are used as a basis for improvement.

  - The course is updated periodically to ensure timeliness.

- 21st Century Skills

  - The course intentionally emphasizes 21st Century Skills in the course, including using 21st Century Skills in the core subjects, 21st century content, learning and thinking skills, ICT literacy, self-directed learning, global awareness, and includes 21st century assessments, as identified by the Partnership for 21st Century Skills.

Quality of instruction

The skills needed to teach online not only include, but often exceed, the skills needed to be a successful teacher in the traditional classroom. The elements of learning to teach online fall into two categories. The first, learning the technology and tools of the LMS, is fairly straightforward. Online programs have trained staff who know their technology well, and can both train teachers before a class starts and provide ongoing help. The technology in an LMS is not highly sophisticated and requires no knowledge of computer programming. Teachers with basic computer skills who are adept at Web browsing, email, and Microsoft Office applications are usually able to learn the technical aspects of teaching online fairly quickly.

The second element of teaching online, effective online pedagogy, is much more complex. Many online program professional development requirements focus on helping teachers understand how to motivate individual learners, enhance student interaction and understanding without visual cues, tailor instruction to particular learning styles, and develop or modify interactive lessons to meet student needs.

Online teachers and researchers studying online learning have reported several key skills for online teachers that should be enhanced through professional development opportunities. These are reflected in the *National Standards for Quality Online Teaching*, released by iNACOL in 2008:[3]

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[3] Information in this section, and all quotes in this section, are based on iNACOL's National Standards for Quality Online Teaching, published in 2008, and the Essential Principles of Online Teaching: Guidelines for evaluating K-12 online teachers, Southern Regional Education Board, April 2003. iNACOL's standards were built on the SREB standards, noting that "[i]NACOL conducted a comprehensive review of online teaching standards available. Based on this review, the SREB Standards for Quality Online Teaching, Southern Regional Education Board, Atlanta, Georgia, 2006 is adopted, with minor modifications, as the source for the [i]NACOL National Standards for Quality Online Teaching. [i]NACOL added two standards to the 11 SREB standards. Some of the SREB indicators were deleted and others were added. [i]NACOL added two additional standards from the Ohio Department of Education's Ohio Standards for the Teaching Profession and the Electronic Classroom of Tomorrow's Teacher Evaluation Rubric based on the results of the review."

- The teacher meets the professional teaching standards established by a state-licensing agency or the teacher has academic credentials in the field in which he or she is teaching.

- The teacher plans, designs, and incorporates strategies to encourage active learning, interaction, participation, and collaboration in the online environment.

- The teacher provides online leadership in a manner that promotes student success through regular feedback, prompt response, and clear expectations.

- The teacher has experienced online learning from the perspective of a student.

- The teacher understands and is responsive to students with special needs.

- The teacher demonstrates competencies in creating and implementing assessments in online learning environments in ways that ensure validity and reliability of instruments and procedures.

- The teacher demonstrates competencies in using data and findings from assessments and other data sources to modify instructional methods and content and to guide student learning.

Online programs often evaluate their teachers on many more dimensions than most physical schools. This is possible in part because of the nature of the LMS technology, which captures teacher-student interactions, class discussions, and course content in a way that is not possible in a traditional classroom. A school administrator can drop into a threaded discussion much more easily than a classroom discussion without impacting the discussion. Also, many online programs survey students once or more times per semester, and may ask the students' opinions about their teachers.

Professional development for online teachers

First-time online teachers are unlikely to have much, if any, experience in teaching online. In response, many programs have developed extensive professional development programs. For instance, Louisiana Virtual School has an in-depth five-phase program for new teachers, and Alabama ACCESS has an extensive professional development (PD) component to the state's online education efforts.

Many programs approach PD needs with a mix of online and face-to-face training. Florida, for example, requires new teachers to spend 10–15 hours in an online course before either one day (adjuncts) or two days (full-time) of intensive face-to-face training, followed by a structured series of 15–20 'just in time' trainings provided by FLVS mentors over the next 6–8 months. Similar to the Louisiana Virtual School, structured mentoring is also a key component of supporting new FLVS teachers, with each teacher assigned to a mentor who guides them through a formalized program designed to increase their effectiveness as online teachers. In Illinois, online teachers combine a four-week professional development online course and a three-day face-to-face course.

The amount of time a new teacher is expected to spend on professional development varies widely. Virtual High School, which requires one of two online professional development courses of either 135 hours or 270 hours, is one of the longest. The distinction in the number of hours required is between teachers who are teaching a predeveloped course versus teachers who are developing and teaching a new course. In both PD courses, the emphasis is on the development of effective online teaching skills, emphasizing online classroom pedagogy and management skills, such as fostering online teams, online group projects, creating and sustaining online community, and fostering online discussions in constructivist, student-centered learning. Clark County's Virtual High School in Nevada makes a similar distinction, with teachers required to take a minimum of 36 hours of training for those who are teaching a course, and up to 155 hours of training for those who are teaching and developing a course.

Funding

Funding of online programs varies based on the type of program. Almost all state virtual schools are funded by sources that are not tied to the number of students or number of course completions. Many are funded primarily by legislative appropriations. Some state virtual schools are funded by state or federal funds that flow through the state education agency. In Illinois, for example, the state board of education allocated part of its educational technology funds to the Illinois Virtual High School, while in New Mexico the state used federal Enhancing Education Through Technology money to fund the start-up of its state virtual school. Although Florida Virtual School has received attention due to its funding model in which the school received funding for course completions, no other state virtual schools have implemented the same model.

The approach to funding programs out of appropriations or grants continues to be common, even though many practitioners feel that funding via annual appropriation is not a sustainable model because it is subject to a state's economic and budget cycles. These concerns have been validated in recent years, as several state virtual school budgets have been significantly cut as states sought to balance their budgets by cutting spending to match reduced tax revenues.

Many state virtual schools charge course fees to schools, districts, and/or parents. Typically these fees are in the range of $100 to a few hundred dollars per student per semester. The course fees may be sufficient to cover the marginal cost of the course, but in all cases course fees do not cover overhead costs of the program.

Florida Virtual School was the first state virtual school to be funded via state public education FTE funding, and is still the only one funded in this way. This funding change, from a legislative appropriation previously, has helped fuel the growth of the program because FTE funding is more predictable year to year, and because it is directly tied to the number of course enrollments.

Multi-district online programs are usually charter schools that are funded via the public education formula that ties funding to the student. In some states the funding level for students in online charter schools is different from students in non-charter, physical schools.

Conceptually, this funding model is quite simple, but, in fact, state funding formulas and practices are often challenged in numerous ways by online students and programs.

Funding single-district programs is, in many ways, much simpler than funding full-time, multi-district programs. In most cases, states don't distinguish between funding of online and face-to-face courses for students within a single district. In many other states, because there is little or no online education policy, students in a single-district online program are simply counted and funded in the same way in which all students in the district are funded.

The need for common measures

The rapid growth of online education programs has challenged policymakers responsible for overseeing public education in numerous ways. One of these challenges is the lack of common measures of outcomes and quality in supplemental online programs. Although most programs track student outcomes and other measures of quality, these measures are not consistent across programs; a metric with the same name (e.g., course completion rate) used by two programs may not, in fact, measure the same thing. This lack of consistency makes measuring outcomes across programs difficult and hinders development of appropriate policies.

There are three main variables in how course completion rates are calculated:

- Does the completion rate take into account a drop period for the course? (Are students who drop within a certain period not included in the calculation?)

- Do students have to pass a course to be considered a completion? (Is a student who is active but failing at the end of the course considered a completion?)

- How does the completion rate account for students needing extra time after the scheduled end of the course?

Because full-time programs are responsible for their students' state assessment scores, they do not face this issue.

The Future of Online Learning

Although online learning at the K–12 level is still a very recent development, it is also evolving very quickly. There are some key trends that are likely to affect online students, teachers, and schools.

- School districts are increasingly recognizing the need to provide online schools and courses for their own students. Although data do not exist that show variations in the level of district activity between states, anecdotal evidence suggests that districts in states with active state virtual schools, or online charter schools, are more likely to be considering or implementing online programs.

- Districts are more likely to implement a form of blended or hybrid learning than programs and courses that are fully face-to-face.

Blended learning, combining online and face-to-face instruction, merges many of the benefits of each method of instruction.

- The shift toward blended learning is challenging some of the new online learning policies and funding models that have been created recently. Many of these policies and funding approaches envisioned courses that are fully online, with teachers and students always at a distance from one another.

- Among the early drivers of growth in online learning was the desire to provide highly qualified teachers and high-quality courses in subjects that would otherwise not be available to students in some areas. While this is still a driver of many online programs, and in particular state virtual schools, there has also been a shift. Some districts and states are adopting online learning because of its inherent advantage in teaching 21st Century Skills, while others are adopting online and blended learning as a way to individualize instruction, regardless of whether the student and teacher share a physical classroom or not.

Online educators recognize the many challenges inherent in creating new models of teaching and learning. They also recognize that the benefits to students (and to teachers, school districts, and states) far outweigh the challenges. Furthermore, adding an online component to education is, for most students, simply mimicking the way that they live much of their lives. Much of their communication is digital and their music is online; indeed, their very identities are increasingly online (e.g. MySpace and Facebook).

Because online learning is so new, there are emerging promising practices but not yet established best practices. The chapters that follow describe many different approaches to teaching and learning online, and to creating and managing some of the organizations that are constructing a critically important new method of education.

Links

http://www.kpk12.com

http://www.nasdse.org/Portals/0/Documents/Primer_IssueBriefNo10.pdf

http://www.inacol.org/research/nationalstandards/index.php

ACCESS Distance Learning: Delivering Instruction via a Blended Model in Alabama

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Martha Donaldson, Retired, ACCESS Distance Learning

Alabama Department of Education

The mission of the Alabama ACCESS Distance Learning program is to provide an infrastructure that delivers equitable, quality learning opportunities for all Alabama students.

Our vision: The State of Alabama will provide equal access to high-quality instruction to improve student achievement through distance learning.

http://accessdl.state.al.us/

Historical Perspective and General Overview

Program Development

The success that ACCESS (Alabama Connecting Classrooms, Educators, & Students Statewide) Distance Learning has achieved through the formula of blended learning—a mix of synchronous (real time) and asynchronous (not coordinated in time) course delivery—is undeniable. ACCESS has allowed high school students across the state to be part of a world of learning to which they would not normally have access, providing them with the opportunity to take core courses, electives, Advanced Placement courses, and courses such as Latin or Mandarin Chinese that are not taught at their schools. ACCESS has also helped thousands of high school students to graduate by providing them with online remediation modules for the Alabama High School Graduation Exam.

Because we implemented a blended approach to course delivery that was not the "norm" in most states, *ACCESS has gained national attention and praise.* Today, blended or hybrid learning is recognized internationally as a promising instructional delivery method that can address the individual learning styles of students. As a result, the research and long-range planning conducted by Alabama has paid off for its students and made the state a leader in the field of distance learning. Based on the number of 2008–2009 course enrollments, the 2009 "Keeping Pace with K–12 Online Learning" report ranks ACCESS as the second largest state virtual school in the nation (*http://www.kpk12.com*).

> *"ACCESS has helped the Dallas County School System maintain and expand course offerings when we were either unable to recruit or fund a highly qualified teacher. Without ACCESS, students at my high schools would not have been able to participate in courses such as Advanced Placement Calculus, Latin, Shakespeare, etc. The ACCESS service delivery model has also helped educators become more creative and innovative in the delivery of quality curricula."*
>
> — Dr. Fannie L. Major-McKenzie, Superintendent, Dallas County School System

ACCESS currently offers a variety of electives and advanced courses and is working on the development of the remaining three core courses required for high school graduation. Other courses are being added on a regular basis. The program also allows homebound students to work at home to stay up with their classmates, allows students to have a better chance of graduating on time, and provides other students with opportunities to catch up or expand their education through available electives that are aligned with their interests.

ACCESS Distance Learning is the first statewide initiative that has focused on bringing true equity in instructional opportunities to all Alabama high school students, regardless of where they attend school. The program was piloted

in 24 Alabama high schools in January of 2006. Since its inception, this statewide initiative has provided Alabama students with access to quality instruction and coursework; a statewide technical infrastructure to deliver courses; three regional support centers to hire, train, evaluate, and support e-teachers; statewide coordination, scheduling, and support for distance learning; and a 21st Century Distance Learning Classroom in all 371 Alabama high schools. Since its implementation, ACCESS has also provided professional development to thousands of teachers, counselors, and administrators.

> *"ACCESS is an ONLINE experience of a lifetime . . . ACCESS allows you to grow, mature academically and become a responsible student. I would recommend it to anyone willing to accept a challenge."*
>
> — Andrea Dobynes, Student, Francis Marion High School, Perry County School System

In FY 2009 alone, ACCESS provided more than 26,000 student enrollments in courses needed by students to meet graduation requirements and more than 6,000 additional enrollments in on-credit remediation modules for the Alabama High School Graduation Exam. In FY 2010 and again for FY 2011, ACCESS Distance Learning has been appropriated approximately $19 million each year. Funding ACCESS is the most cost-efficient method of providing students across the state with equal access to courses needed for graduation and beyond.

Since January of 2006, a new mode of course delivery in Alabama has been rapidly increasing the number and quality of courses available to high school students across the state. Why now in Alabama? The simple answer is that the timing is right. The trend began as two higher-education leaders ventured out into the K–12 sector to provide distance learning opportunities and advocate for support by the governor for expansion. Because they had proven success in distance learning, these leaders were instrumental in setting the stage for the acceptance of the online teaching format. The challenge was to bring them into a shared vision for distance learning and yet keep the advantages that competition brings.

With the influence and encouragement of these key leaders, Alabama's Governor Bob Riley saw the need and the potential for the incorporation of distance learning in K–12 education in the state. Governor Riley initiated the most important step in the process by setting the vision and asking that a group be selected to develop a plan and implement the vision (*http://accessdl.state.al.us/accessplan.pdf*). The state superintendent of education was charged with convening the task force and putting the plan in action in the fall of 2004.

In forming a task force, one has to think about the inclusion of different stakeholders. It was a given that the universities already involved in K–12 distance learning would be invited. The next step, however, was to formulate answers to key questions. Who would have the most to gain from the initiative? Who would be immediately opposed? Was there a chance to turn them around? Who would have to be supportive of the initiative for it to be successful? Who had gained the needed expertise from similar initiatives?

To assist in answering these questions, the following groups were invited to send representatives to the first task force meeting: four universities in the state that had been involved in distance learning, the state technology network, the Curriculum and Instruction Section of the Alabama Department of Education, district technology coordinators, school system superintendents, the state teachers association, the Southern Regional Education Board (SREB), and school districts that had already made strides in the use of distance learning. The Technology Initiatives Section of the Alabama Department of Education was charged by the state superintendent with the responsibility of leading the task force.

"ACCESS and the ACCESS IVC Lab at Coffeeville High School help to bridge the gap between advantaged and disadvantaged schools and provide our students, staff, and community with access to unlimited learning opportunities. Video conferencing classes broke the limiting parameters of time, distance, and resources, therefore, improving student achievement by providing immediate access to vital instruction and information. ACCESS distance learning provides opportunities to access classes and courses that otherwise would not be available to our students. ACCESS helps to ensure equity in education to rural students and reduces the harmful effects of poverty on student achievement."

— Coffeeville High School Administrators, Faculty/Staff

As the ACCESS task force met for the first time, the state superintendent of education and the governor of Alabama attended, demonstrating their support from the beginning. Both described their vision, discussed the purpose for convening the group, and indicated how they would be supporting its work. Members of that initial meeting recall Governor Riley sitting in front of the room, rolling up his sleeves, and talking about what he saw currently happening in Alabama—students in rural schools with very limited electives, students in more affluent schools with numerous course choices, and excellent universities that both types of students could attend. The governor stated that his desire was to see every high school student in the state of Alabama have the opportunity to take any course, regardless of the high school attended. He saw courses like Mandarin Chinese being in high demand, yet realized only a few teachers would be available to teach them. His challenge? How could Alabama maximize the potential provided by excellent teachers in one area of the state by sharing them with students in other geographic regions? Because he knew there were rural areas that had difficulty recruiting teachers to relocate to their communities, Governor Riley charged the group with developing a plan for determining how this could happen in Alabama, building upon the success already shown by distance learning programs at The University of Alabama, Troy University, and other universities in the state. He also asked the group to come up with a budget, but noted that it would be his job to

come up with the dollars. The task force was given two months to develop the plan and bring it back to the table to share with him. This initial plan and the Years 2–5 Plan that was released in September 2006 are available at *http://accessdl.state.al.us/HistoryInfo.html#planupdates.*

The distance learning task force completed its early mission in exemplary form and has been instrumental in the success of the program that was named ACCESS (Alabama Connecting Classrooms, Educators, & Students Statewide) Distance Learning. Members continue to faithfully attend meetings (along with a few additional members added as the program has expanded), planning next steps, evaluating results, advocating for expansion, and continually moving the initiative to higher and higher levels. A current listing of task force members can be accessed at *http://accessdl.state.al.us/aboutaccess/.*

Funding Sources

The funding for ACCESS Distance Learning has been a line item in the state education budget since its first year of operation, FY 2006. For the first two years, the program was funded at $10.3 million. In Year 3, this amount was increased to $20.3 million. In addition to the funds appropriated by the state legislature, two million dollars has been received in grants from the Appalachian Regional Commission.

The funding model for ACCESS is one of the things that sets it apart from other distance learning programs. This came about because the task force felt it was very important to support schools in overcoming any barrier they might encounter in offering distance learning courses. As a result, funding was included for connectivity (started at a minimum of 10 Mbps and now up to 50 Mbps, if needed, to every high school), equipment to outfit a complete 21st Century Classroom (including interactive videoconferencing equipment, tablet computers, and other innovative types of technology), management support, course purchase and development, teacher support, and (of course) teachers. From the beginning, the task force felt it was important for this initiative to be seen as a part of the local school and not as a competitor. Thus, no funds have been taken from money provided to local school districts through the Alabama state funding formula when they enroll students in ACCESS courses. This funding model limits ACCESS courses exclusively to students enrolled in Alabama public high schools.

Partnerships

From the inception of the original ACCESS task force, partnerships have been instrumental to the success of the program. Universities and other state agencies have been leaders throughout the entire planning and implementation process. Two of the universities (Troy University and The University of Alabama), for example, brought their expertise in online and interactive videoconferencing course delivery. The University of Alabama also contributed Alabama-developed online courses that were revised and brought under the ACCESS umbrella. The support of Alabama's Governor Bob Riley aided in promoting the initiative, obtaining funding, and providing media support for the expansion of the program. These partners are included in the organizational leadership as members of the task force.

> *"One of my students took AP Biology online with ACCESS this spring. She made a 5 on her AP exam! This student is attending the University of Alabama in the fall majoring in pre-med. She wouldn't have been able to take such a course in high school and get college credit without ACCESS. Just one more success story."*
>
> — Jennifer Marshall Roberts,
> Teacher, Wilson School,
> Lauderdale County School System

The ACCESS task force is made up of representatives from various state entities such as institutions of higher learning, school system superintendents, State Department of Education personnel, the Alabama Education Association, district technology coordinators, the Alabama Department of Economic and Community Affairs, the Office of Governor Bob Riley, Alabama Public Television, the Alabama Supercomputer Authority, and the Alabama Department of Postsecondary Education. Having their expertise in determining new ways to deliver K–12 education, as well as for addressing issues such as dual credit, has opened the door to unlimited possibilities. These three-hour meetings, with all the brain power and educational experience in the room, have played a major role in leading the effort to move the program forward in giant steps.

Partnerships established between the Alabama Department of Education and the organizations identified above have been extremely beneficial in the implementation of the ACCESS program. These partnerships, as arms or extensions of the smaller group, have allowed the implementation to be far reaching. In addition, ACCESS has partnered with the Alabama Supercomputer Authority as it builds a statewide network infrastructure to include every local education agency (LEA) in the state. ACCESS also has built relationships with Alabama Public Television and utilizes several of its resources in course delivery. Partnerships on special projects with state business and professional groups such as the Bell South Foundation and others have been of benefit to ACCESS students, teachers, and schools. These projects have offered support to schools in ways such as providing refurbished computers to students and providing information on resources available from such organizations.

Mission and Goals

The mission of the Alabama ACCESS Distance Learning program is to provide an infrastructure that delivers equitable, quality learning opportunities for all Alabama students. This mission is being accomplished through the unique infrastructure that the program is providing for all school systems in the state. Coupled with the program's goal of providing equity through additional course offerings for all Alabama public high school students, ACCESS is offering a fully rounded curriculum that is accessible by all schools. Geography and socio-economic status no longer prevent students from taking Advanced Placement (AP) courses, foreign languages, advanced electives, and other courses. Through this far-reaching program, small, rural, or underserved districts that face challenges with

extended course offerings are provided with free courses that are commensurate with those available to Alabama public high school students in other areas of the state.

Status of ACCESS

ACCESS Distance Learning is a transformational model that blends traditional high school instruction, online instruction, and interactive videoconferencing instruction to personalize the instructional process for students, shown in Figure 3-1. The delivery model should be determined by examining the learning style and needs of each individual student. In developing this blended model, ACCESS interactive videoconferencing teachers are able to use the learning management system for assignments, communication, testing, and projects. All Web-based course content is available to teachers for use in both models. In the Web-based course delivery model, teachers are incorporating real-time, teacher-to-student interaction using Web conferencing software or interactive videoconferencing systems to help meet the face-to-face needs identified by students.

Personalized Instruction

Online

IVC

Blended

Traditional
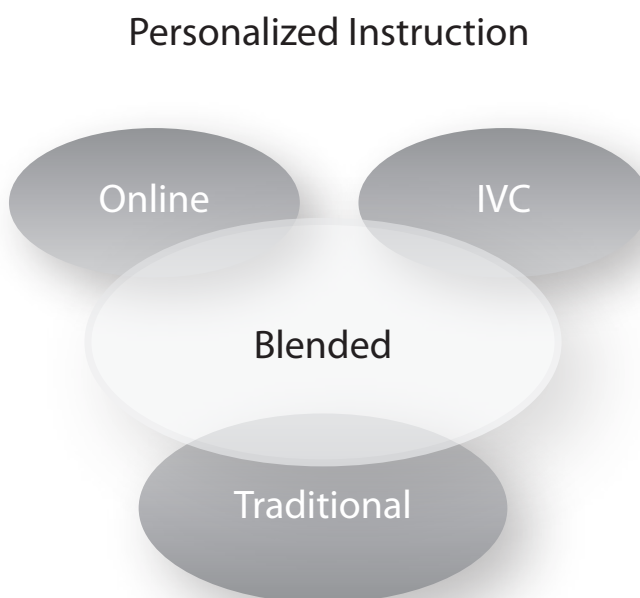
Figure 3-1. ACCESS Transformational Model

The ACCESS Distance Learning program provides Web-based and interactive videoconferencing courses (IVC) that are aligned to course requirements in state content area courses of study. IVC teachers ensure that this requirement is met for their face-to-face and distance learning students. Web-based courses, however, must be evaluated at the state level. Each core course, therefore, has been evaluated by a committee of Alabama teachers with experience in teaching that course at the high school level and has been approved by staff at the Alabama Department of Education.

ACCESS Web-based courses are delivered in accordance with all requirements of the online course section of the Alabama Administrative Code (AAC). As a result of the early success of the program, this section was amended in September of 2007 to allow students to take an unlimited number of online courses in Grades 9–12. The rule also allows homebound students to participate in the program and requires school systems to provide appropriate technology, adequate supervision, and technical assistance, in accordance with State Department of Education (SDE) online technology requirements for local implementation. The task force recommended that ACCESS only be available first for Alabama public school students in Grades 9–12. Starting in the fall of 2010, ACCESS will be opened to accelerated eighth grade students.

Other requirements of the AAC rule for online courses include:

- The appointment of an adult facilitator approved by the local school who has completed professional development in online methodology and technical aspects of Web-based instruction (WBI) to serve as a liaison to the ACCESS online teacher and a mentor to students

- The necessity for teachers who deliver instruction to be certified and highly qualified teachers in the content area of the course or faculty members of an institution of higher education accredited by an agency recognized by the AAC (These teachers must possess expertise in the specific content area and must have participated in inservice education, sponsored by the providing institution, pertaining to instructional methodology and technical aspects of online delivery.)

- The responsibility of school systems to provide equipment, textbooks, software, and supplemental resources for courses necessary for completion of graduation requirements and for costs associated with the delivery of courses not provided by the SDE

Administration and Policy

Organizational Structure

The ACCESS infrastructure includes five major groups: the State Board of Education, Executive Board, task force, State Department of Education staff, and three regional support centers (RSC). The Alabama Board of Education, with the governor of Alabama as the chair, governs the program. Figure 3-2 contains an organizational chart depicting the infrastructure.
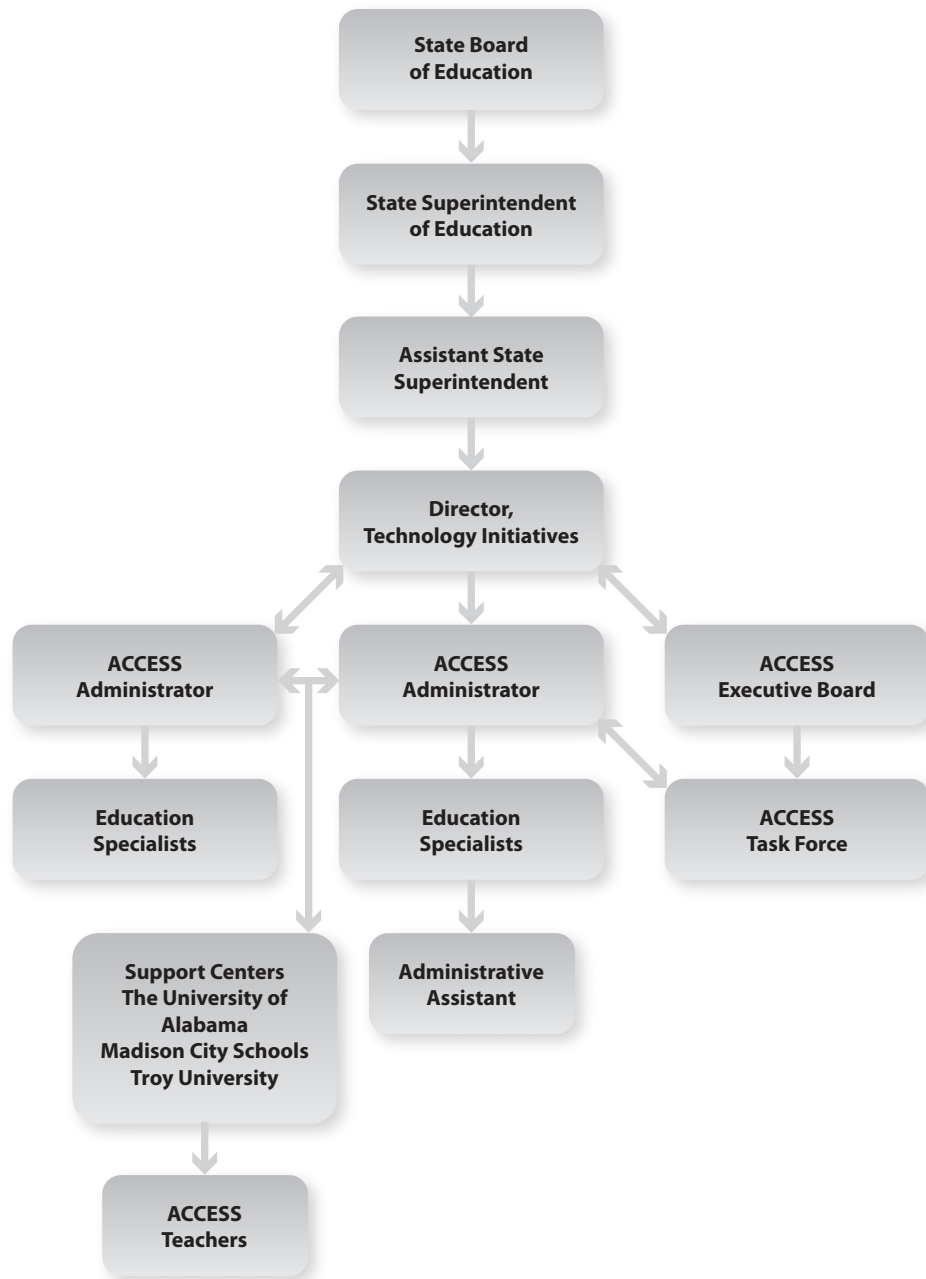
Figure 3-2. ACCESS Organizational Chart

Directions for the ACCESS Distance Learning program are proposed by the task force and passed on to the ACCESS Executive Board if shifts in funding are needed. As major recommendations are made by this group, State Department of Education staff members in Technology Initiatives are charged with implementing changes to the ACCESS program. Staff members from three regional support centers handle many of the day-to-day issues, especially in the areas of teacher recruitment, training, and support. Any issues related to budgets and policies are referred to the State Superintendent of Education, and (when needed) to the Alabama Board of Education.

ACCESS fosters relationships with onsite schools by way of (1) providing a network infrastructure that can be utilized by other programs; (2) providing funds to LEAs for use of facilities; (3) not taking funding units away from local school districts; and (4) providing 21st Century Classrooms. In each high school, the school is the center of the action as students begin to see ACCESS as part of their local school and not as a separate organization.

Accountability Measures

On an internal level, ACCESS works under the guidance of a statewide task force appointed by the State Superintendent of Education. The three support centers operate under contracts with the State Department of Education to deliver specific services to the ACCESS program. External evaluation, close accounting oversight, and onsite monitoring is conducted to ensure services are delivered according to contractual requirements.

To provide an evaluative summary of the program, the International Society for Technology in Education (ISTE) serves as the external evaluator of ACCESS. Selected through the RFP (Request for Proposal) process in early 2006, this organization started submitting reports and is currently gathering data for the future reports. Findings from the 2006 evaluations, including charts and tables summarizing key findings, are available at *http://accessdl.state.al.us* and indicate the following:

- 72 percent of students rated ACCESS courses as good as or better than traditional courses.

- 80 percent of teachers felt that ACCESS goals were being met.

- The Alabama ACCESS program is a highly functional distance education program for high school students that are meeting the needs of Alabama educators, students, and parents.

- Substantial evidence is available to show that the program is meeting its stated objectives of providing access to advanced diploma courses, additional course offerings, Advanced Placement or dual enrollment/credit courses, and remediation and supplemental resources, leveraging existing resources and distance learning offerings, and providing teachers with additional multimedia and technology tools to enhance instruction.

Findings for the responses to the qualitative data collection in the spring and fall of 2008 were positive toward the program, supportive of past ACCESS activities, and optimistic about the future. Participants generally agreed with prior findings, namely:

- Key aspects of ACCESS are working well. The RSC's are highly rated by school personnel as a source of support. Large numbers of students have been able to take courses that otherwise would not be available.

- A minority of students (17 percent) reported dissatisfaction with certain aspects of the program.

- Technology issues were reported by some students and facilitators.

- Students and teachers wanted more communication with one another, as do teachers and facilitators.

The full 2007–2008 report can be found at *http://accessdl.state.al.us*.

E-Teachers

> *"As an instructor within the ACCESS program, I have had the privilege to connect with students of varying backgrounds allowing me the same opportunities of stepping outside of my comfort zone, challenging my teaching skills, and encouraging me to mold to an innovative means of teaching."*
>
> — Samantha Smith, Teacher, Alma Bryant High School, Mobile

ACCESS Distance Learning utilizes teachers that are teaching during the school day in schools around the state or teachers that have taught previously (and for various reasons are not currently teaching) in a "bricks and mortar" school. All are Alabama certified and highly qualified in the curricular areas they teach. ACCESS online teachers are considered "adjunct" in that most of them have classroom teaching jobs during the day and teach for ACCESS in the evenings. Even though it is recommended that ACCESS students have dedicated times during the school day to take Web-based courses, their teachers do not have to be online with the students when they are logged on. Web-based classes allow for flexibility in scheduling and self-pacing; IVC and blended courses are synchronous, requiring that schedules of the sending and receiving schools have the similar type scheduling. Some schools are on block schedules, while others have trimester or traditional (six or seven) period schedules.

As of 2009, ACCESS had 560 active teachers. During this term, these teachers delivered instruction to 26,197 student enrollments via Web-based and interactive videoconferencing courses. Teachers were hired and managed by the three ACCESS support centers that are located in three distinct regions of the state. Instructional support for teachers continues to be provided by these three regional support centers.

To prepare for their work, ACCESS teachers must go through an initial three days of training prior to teaching an ACCESS class. Additional training is ongoing, with frequent face-to-face trainings in addition to Web conferencing sessions. Teachers are trained to use the learning management system (LMS), Web conferencing software, voice tools, and various other resources that are used to enhance virtual instruction. One such resource is HippoCampus, a free resource available to students and teachers alike.

Teachers are also expected to participate in required ongoing professional development activities in specific aspects of course delivery, as needed and scheduled by the regional support center serving each area of the state and/or the Alabama Department of Education. This training may be conducted face-to-face, virtually, or through the use of Web conferencing software. Training modules include tutorials, learning management system user manuals, teacher discussion boards, resources, instructional videos, and various other teacher tools and resources. Additional WBI professional development and training opportunities are available in CAST (Connecting ACCESS Staff and Teachers). CAST is a Web-based teacher community that is designed to promote interactivity between the ACCESS SDE staff, support center staff, teachers, and facilitators. Additionally, necessary documents, schedules, links, and calendars are shared within the CAST area of the LMS.

ACCESS teachers employed for the entire school year (two terms/semesters) will be required to complete six different professional development modules. Teachers hired for only one term/semester will be required to complete three modules during their term of employment and three additional modules during any subsequent term of employment until all six of the required modules have been completed. Teachers must complete two additional modules per year if ACCESS employment is continued. Required and elective professional development modules are listed in the CAST area of the LMS.

Students and Courses

"I think that this online class was something new and a great experience. It gives a good glimpse of what to look forward to after graduation. It gives you a heads up on the college online classes . . . lets you know how to prepare yourself and what it takes to succeed."

— Casiada Sawyer, Student, Francis Marion High School, Perry County School System

A goal of ACCESS is to keep instruction as close to that in a face-to-face instructional environment as possible. This is important, since some students need to see that the teacher on the delivery or sending end is a real "live" person. ACCESS students range from rural to urban and high poverty to high socio-economic status. The program strives to reach all Alabama high school students, regardless of their place of residence or background. In 2009, ACCESS had a total of 26,197 enrollments and an additional 6,059 enrollments in remediation courses/modules. Of the total number of half-credit enrollments, 1,241 were in AP courses, 9,450 in other advanced courses, and 15,506 in core and elective courses. Table 3-1 summarizes the growth of the program since its beginning in the spring of 2006.

Alabama made significant changes in policy for all students in July 2009. Two policies that affected distance learning include a new graduation requirement for an online course and the option to award credits based on completion rather than seat time.

Diploma Requirements – Distance Learning

Effective for students entering the ninth grade in the 2009–2010 school year, Alabama students will be required to complete one online/technology enhanced course or experience prior to graduation. Exceptions through Individualized Education Plans will be allowed. (Alabama Administrative Code 290-3-1.02(8)(d)(4)).

Competency-Based – Time Allotment and Credit Requirements for Secondary Schools

a. One credit may be granted in grades 9–12 for required or elective courses consisting of a minimum of 140 instructional hours or in which students demonstrate mastery of Alabama course of study content standards in one-credit courses without specified instructional time. (Alabama Administrative Code 290-3-1.02(9)(a)).

b. One half credit minimum of 70 instructional hours or in which students demonstrate mastery of Alabama course of study content standards in half-credit courses without specified instructional time. (Alabama Administrative Code 290-3-1.02(9)(c)).

	Before ACCESS Fall 2005	Total 2006	Total 2007	Total 2009
Alabama Online High School (AOHS) Courses (Half Credits)	489	425 (Spring)	(Phased Out—Role Assumed by ACCESS)	
Sub-Total (Half-Credit Users) Advanced Placement Courses Other Advanced Courses Core and Elective Courses		NA NA NA	496 3,597 5,415	1,241 9,450 15,506
Sub-Total (AOHS, Web, IVC)	489	4,382	9,508	26,197
Remediation Modules (Non-Credit)		704	4,180	6,059
Total (Half Credits + Remediation)	489	5,086	13,688	32,206
Participating Schools	34	101	194	371
Courses/Modules — WBI IVC Remediation	20 0 2	31 26 2	49 23 5	60 42 5
Total Courses Delivered	22	59	77	107

Table 3-1. Growth of ACCESS from pre-2005 until 2009.

To schedule ACCESS courses, Alabama students must request them through their high school counselors. The counselors are responsible for discussing course selections with students and going to the registration site to request courses when selections are made. This requires each high school counselor to have a unique login to the registration site. ACCESS has worked with a software company to develop a registration system that is more robust than the previous one, which was homegrown. This new system is an offspring of the state student information system and allows ACCESS staff to pull demographics for all stakeholders, making it less prone to error. After each course has been requested, support

centers find a match (course and teacher) for the request and offer the match to the counselor for acceptance. If the match is accepted, the support center adds the matched course to the course roster. To facilitate this process, counselors are trained by staff from the three regional support centers and supported, as needed, throughout each academic term.

For the 2009–2010 school year, ACCESS offers 60 Web-based courses and an additional 42 unique IVC courses, ranging from AP Calculus to Mandarin Chinese, and five Alabama High School Graduation Exam remediation modules. ACCESS remediation modules are self-paced. These courses encompass the blended model in which teachers have a course shell in the LMS that supports their IVC course delivery. The course shell is used for communication purposes, including e-mail, news, discussions, and chats. Teachers have the option of posting assignments and quizzes in the course shell and of utilizing the course content. When schedules of the sending and receiving schools do not match perfectly, the LMS serves as an avenue through which optional delivery plans may be facilitated. The LMS may be used, for example, when spring breaks of partnering schools do not match, when one class period starts earlier or later than another, or simply when the teacher wishes to provide immediate feedback to students after grading an assignment.

Outcomes and Lessons Learned

School-Based Experiences

Since its implementation in January of 2006, ACCESS half-credit enrollments have grown from 4,382 in 2006 to 26,197 in 2009. School participation has increased from 34 schools receiving distance education courses in 2005 to 194 schools in the fall of 2007. The number of schools receiving awards for the establishment of 21st Century Classrooms has also grown, increasing from the original 24 pilot sites to 170 sites in October of 2007 to all 371 high schools in August 2009. Teacher numbers have been steadily increasing. Fall 2009 numbers indicate 560 teachers—up from 81 in 2006. Though teacher retention numbers are not available, it appears that the retention rate is high, with few teachers being removed or resigning from the program.

In a survey conducted by the outside evaluator, teachers agreed that three features were benefits of ACCESS courses: increased student access to courses, increased student experience with technologies, and increased teacher experience with technologies. Eighty percent of teachers responding to the survey either agreed or strongly agreed that the ACCESS goal of making high-quality courses available to more students was met. Problems noted included concerns about teachers being paid in a timely way and issues related to the registration system used to enroll students and schedule courses. To address these concerns, ACCESS staff members worked with the three regional support centers to introduce a consistent payment plan and timeline for teachers and deployed a new registration system in the fall of 2009.

Student-Based Experiences

> *"I am just back from HIGH FIVING (a student) who almost cried and talking to his mother who did cry . . . first in his family to graduate . . . this child needed one class to walk across that stage . . . ACCESS gave him that opportunity . . . this is a wonderful program . . . it makes a difference in a big way . . . thank you . . ."*
>
> — D. J. Johnson, Facilitator,
> R. C. Hatch High School,
> Union Town, Alabama

In addition to the large increase in numbers of students enrolled in the ACCESS Distance Learning program, a growing number of these students are enrolled in core courses that must be passed to allow the students to graduate on time. Much of this growth is attributed to an increased knowledge of the program, a growing sense of how it can benefit students and school systems, a statewide focus on increasing the high school graduation rate, and increased funding. Special programs have been initiated in some school systems that allow students to take classes after school or during an extended school day so that credits lost due to course failures may be recovered. Student enrollment in Alabama High School Graduation Exam remediation modules has also grown from 704 enrollments in 2006 to 6,059 enrollments in 2009.

School Accomplishments

To help measure the success of the ACCESS program to date, one must look at changes in a number of areas. In 2003, Alabama administered only 99 AP exams per 1,000 juniors and seniors, ranking 14th out of 16 southern states in AP offerings. Many Alabama high schools were unable to support AP and elective courses. Alabama had a high need for remediation and supplemental resources, had difficulty attracting and retaining highly qualified teachers (particularly in rural, impoverished areas), had many school systems with limited connectivity and technical resources, and was facing obstacles in encouraging economic development in some regions of the state.

Best Practices

School-Based Services and Support

With the release of the findings from the International Society for Technology in Education (ISTE), the external evaluator for the ACCESS program, data became available that allowed program administrators to focus on key areas of concern identified by the various stakeholders. One of the first strategies undertaken was the development of policy manuals for all stakeholders (*http://accessdl.state.al.us/aboutaccess/*), including students, teachers, facilitators, counselors, technology coordinators, and school administrators. These

manuals not only provided additional opportunities for teachers to learn about ACCESS, but also provided a constant source of information for those working with the program.

> *"ACCESS has been a catalyst for change in Randolph County Schools by helping to bring our schools into the 21st century. The students have course options that they never had before ACCESS. This is especially beneficial for our college bound students who can take more academically challenging courses, including Advanced Placement and a variety of foreign languages. Our teachers who use the 21st Century Classrooms provided by ACCESS enjoy teaching more than ever. The excitement has spread beyond just the ACCESS classroom. Other teachers in the school see the advantages of the 21st Century Classroom and are acquiring this technology . . . ACCESS has been very beneficial to the schools by providing highly qualified teachers in Spanish and science courses when qualified teachers are not available in our system. ACCESS has made teaching and learning exciting in Randolph County Schools."*
>
> — Deborah McManus,
> Technology Coordinator,
> Randolph County Schools

Another action strategy was the purchase of needed resources for courses at the state level. These purchases allowed resources needed for each course to be more readily available to students. Because of concerns expressed by local schools participating in the ACCESS program, work is currently underway to purchase online textbooks or CDs to facilitate timely receipt of textbooks by students. Questions related to training have led to more consistency in the training of teachers, facilitators, and counselors to improve instructional support and registration processes. Support centers have also continued training for local school administrators. In addition, quality concerns related to courses have led to the utilization of accepted standards for quality online courses from the Southern Regional Education Board (*http://www.evalutech.sreb.org/criteria/online.asp*) and state content area courses of study (*http://www.alsde.edu/html/CoursesOfStudy.asp*) to determine and ensure the quality and appropriateness of online course offerings.

During the registration and teacher assignment process, every effort is made to place students who are from the same school and taking the same course with the same teacher. The contact information for these teachers is shared with the school whose students are receiving instruction. More time, therefore, can be devoted to developing a community, including students at sending and receiving schools, teachers, and facilitators. In fact, many ACCESS teachers travel and visit their distant students at various times during the year, sometimes participating in school

activities such as attending an after-school ball game. Others have organized field trips for all their students to meet in a face-to-face environment. In some cases, students have taken it upon themselves to initiate contact and have gone to the school where teachers are employed to meet them and even participate in some of their traditional classes. One teacher remarked, "I consider all of these kids my students regardless if they are in my traditional courses or my distance courses. The kids are beginning to view themselves the same way."

Key to the success of the ACCESS program has been the use of onsite classroom facilitators in each classroom to monitor student behavior, provide technical support in the classroom, and communicate on a daily basis with the sending teacher. This school-based support has been very beneficial. It has fulfilled all the needs included here, but has also gone beyond these to provide students with an advocate at the school level who is trained to use the equipment, is knowledgeable of the policies and requirements of ACCESS, and has first-hand knowledge of the needs and abilities of each student. In the majority of participating schools, this role is assumed by an instructional aide hired for this purpose. Each performs all the functions identified above, but the most important role of the facilitator is bridging the communication gap that may exist between the teacher and the student when they are often from very different geographic and cultural areas of the state. The onsite facilitator serves as the eyes of the teacher, relating to the teacher many of the outside influences that may negatively impact the performance of individual students or cause them to fall behind in their work. Together, the teacher and facilitator can develop a plan to support these students to facilitate and even accelerate their learning.

Teacher-Based Services and Support

As in all school environments, it is the quality and professionalism of the teachers that are most crucial to the teaching and learning process. With this in mind, ACCESS has focused much of its attention in the early stages of implementation on providing quality teacher support. In order to provide this support, ACCESS has implemented a successful model of outreach by awarding, through a Request for Proposal (RFP) process, grants to operate three regional support centers. Two universities (Alabama and Troy) and one school district (Madison City) received these awards.

The three regional support centers were established to hire, train, and support teachers in all aspects of both IVC and Web-based course delivery. In addition to pre-service onsite training provided at the support centers, ongoing professional development opportunities include a full day of training for current teachers at the state educational technology conference, incorporating training on the use of the learning management system and in-depth training on supplementary resources, the registration and grading systems, online pedagogy, and technology used to deliver instruction. Continuous opportunities are available for interaction with support centers and State Department of Education staff and for discussions with each other via Web conferencing. Empty course shells have also been established for content-area teachers within the learning management system for use in professional collaboration and informal mentoring of new teachers. Training manuals have been developed and a teacher mentoring program was implemented in the fall of 2008.

In the last four years, ACCESS has redesigned the model for distance learning in the state, helping students to meet their individualized educational goals by using a blended delivery model that allows school systems to customize an academic program that addresses the learning styles and needs of all students. This blended delivery model and the effect on high school reform has become nationally recognized in publications such as the December 2009 issue of Principal Leadership.

Student-Based Services and Support

> *"AP is no longer this far-off, imaginary tale of real classwork and learning . . . Another thanks to ACCESS . . . school walls are no longer my border. Thus far, ACCESS has provided me with five of my classes . . . next year looks good for it too. I have to say . . . I am very much impressed with the things I have accomplished through this program . . ."*
>
> — Ashley Mims, Student, Marbury High School, Autauga County Schools

The most important stakeholders in ACCESS are the students. After all, it is for them that ACCESS was developed. If students are to take maximum advantage of the opportunities it provides, however, much support is needed at the school level. This support is provided in the form of physical resources and school personnel that have been trained by ACCESS staff to assist students with needs related to course delivery. Support includes initial training of students by facilitators on course access and usage during the first 2–3 days of the term; the listing of the necessary prerequisites, textbooks, and other resources needed for each course offering; the provision of policy manuals that fully explain the scope of the program and the expectations of stakeholders; and technical support at the local school, regional support center, and state levels. To ensure that educators at the local level abide by ACCESS policies, schools are required to provide signed forms from students and parents regarding knowledge and acceptance of established policies.

Other actions taken include the placement of IVC teachers and classes into the Web-based version of the course assigned (when the Web-based course is also available) or placing the class into an empty course shell (if the Web version is not available). This allows students and teachers to use LMS resources, including discussion boards, e-mail, online, and other supplementary resources. These practices have proven to be very effective in training and in practice sessions held in support centers and in local schools. Counselors have been trained to register students for courses only after determining that they have the necessary prerequisites for any course in which they are to be enrolled. Web conferencing software has also been purchased to allow teachers to conduct tutoring sessions for students as needed.

The uniqueness of the ACCESS program also has benefits for students. Requiring that the majority of the students are scheduled into classes at school during the normal or extended school day, for example, ensures that students have ample time to work on courses while

allowing them to work on assignments at home as needed. Courses are also taught through the utilization of a blended model of course delivery in which courses are taught via a blend of IVC and Web-based delivery when both technologies are available. This serves to address the individual learning styles of students, enabling a greater chance of success.

Parent-Focused Strategies to Support Student Success

A very important group of stakeholders addressed by ACCESS is the group of parents affiliated with the program. ACCESS has tried to meet needs in this area by providing a handbook for parents/guardians and student/parent brochures and requiring that parents sign an acknowledgment form indicating their acceptance of ACCESS policies for students before classes begin. State Department of Education and ACCESS support center staff facilitate the training of parents of homebound students to aid their children in the use of ACCESS Web-based courses.

Onsite Classroom Facilitators

To better support students, ACCESS requires that onsite facilitators be appointed and trained to oversee the students' instructional progress, and provide local support for teachers. They are aided by counselors who, in addition to registering students, also have access to the registration/student information and learning management systems so that they can monitor student progress in courses. Teachers and facilitators maintain daily contact regarding student progress, further increasing students' chances for success. In the case of homebound students, parents are sometimes trained as facilitators by the regional support centers because of the importance placed upon having a trained facilitator to assist each student. As the outside evaluator commented, "facilitators that are directly working with students day by day are key to the success of the program."

Course Development and Support

Current ACCESS Distance Learning courses have been obtained from two sources. Some are developed at the state level by a team from the State Department of Education and The University of Alabama. The other courses are purchased through an RFP process and are "owned" under a perpetual licensing agreement. These courses were not developed in-state, but they have been checked for alignment with state courses of study and supplemented as needed to meet state requirements. Provisions of these contracts allow for the modification of courses when needed.

In each type of course, students are provided with all the resources they need to participate. The ultimate goal of ACCESS—to develop and provide blended learning opportunities—is within sight. To enable this, IVC students are placed in Web-based versions of the same course to facilitate the use of online resources. This allows for the use of a number of multimedia resources. Using IVC technologies or Web conferencing to provide synchronous learning or tutoring opportunities for students in Web-based courses is also a possibility. Having a scheduled time to work on courses is important, but allowing for additional extended learning opportunities is equally important.

Other provisions of ACCESS include: (1) the development of guidelines for credit recovery to allow students to accelerate the pace of courses or to take sections of courses not previously mastered; (2) the provision of course shells in the learning management system that can be modified by teachers to address individual needs of students and provide for the addition of information and resources; and (3) the archiving of courses to document content (including course modifications) of each teacher.

Course-Based Support

At present, not all ACCESS courses have pre- or post-course measurements or assessments. Plans are in place to make additional assessments available in the near future. All ACCESS students, however, are required to meet the same prerequisites for courses as students taking the same courses in a traditional classroom setting.

Though ACCESS is unique in that courses are offered via Web-based and interactive videoconferencing (IVC) methodologies, with a goal of blending both models into an even more unique approach, multiple levels of support are provided for teachers and students in both types of courses. As a result, teachers are becoming more adept at alternating and combining the two approaches. Web-based teachers, for example, use IVC to review content with their students before and/or after school as well as during school when the teachers' schedules permit. IVC teachers, meanwhile, are able to incorporate a variety of Web-based resources into their primarily synchronous lesson plans.

Technology-Based Support

One of the goals of the ACCESS Distance Learning task force was to develop a plan that would eliminate any barrier a school might have in offering distance learning courses to their students. Plans, therefore, have from the beginning included providing every high school in the state of Alabama with a 21st Century Classroom that has the necessary equipment and connectivity to support distance learning. Equipment for these classrooms is funded by the state as a grant to the school. Each grant has been approximately $85,000 and has provided funds for the following minimum equipment:

- Tablet Computers   25–30
- Microsoft Office Licenses   25–30
- Laptop Cart   1
- Wireless Router   1
- Interactive Whiteboard   1
- Multimedia Projector   1
- DVD/VCR   1
- Headphones/Microphones   25–30

- ▪ USB Storage Devices   30
- ▪ Portable IVC Station   1
- ▪ Document Camera   1

Other necessary technical components of ACCESS include connectivity, resources, a learning management system, and other 21st century technologies. The first of these, connectivity, is an important part of the ACCESS plan. A partnership with the Alabama Supercomputer Authority (another state agency) has led to the expansion of a statewide technical infrastructure and is bringing broadband connectivity (minimum of 20 Mbps) to every school system and to every high school. Of the $18.5 million of funding appropriated for FY 2009, $3.1 million has been reserved for connectivity.

Resources utilized by ACCESS include Web conferencing software, voice tools (WIMBA), NetTrekker, SAS in Schools, United Streaming, MathType, Graphmatica, courses from the National Repository of Online Courses (NROC), HippoCampus, and various other technologies that are embedded in the courses. These resources are available to all ACCESS students at no cost to the student or the school. Another key resource is Desire2Learn (D2L), the learning management system (LMS). D2L was chosen through an RFP process, after a team reviewed all the responses and conducted a comparison of the top three proposals. D2L was chosen because it offered the key features ACCESS was looking for in an LMS.

ACCESS has embedded in each course a student orientation unit that lends to its ease of operation in the LMS. Through this unit, students can tour the course, learn to maneuver e-mail, discover where to post assignments through the dropbox, and manage documents by storing them in the locker. A student training guide is available to all ACCESS students that contains "how tos" for the LMS, tablet PCs, and the registration process. Additionally, the resources that are embedded in the courses contain step-by-step instructions for ease of use.

Each school receiving an ACCESS award is equipped with a 21st Century Classroom. This classroom is used by students taking ACCESS courses during the school day. In the classroom, students have access to tablet PCs, interactive whiteboards, videoconferencing equipment, and a printer/fax/copier/phone combination. Teachers are no longer limited to what they can assign students to do, as they know the necessary technology tools are available.

Many of the schools receiving ACCESS awards have highlighted the classrooms in presentations for their local boards, parents, and the general public. Newspapers have picked up on these local stories and published real-life accounts of students graduating when, without ACCESS, they might not have been able to do so; of students taking AP classes in a high school that has never been able to offer these courses; and of students taking three foreign languages while still in high school. Seeing the students' use of these technology tools has been instrumental in developing grassroots support for the program. A number of national publications have highlighted the program, including the July 2006 issue of T.H.E Journal, the summer 2007 issue of *Converge, Evaluating Online Learning Challenges and Strategies for Success, ISTE's Technology Facilitation and Leadership Standards,* the February 2008 issue of *eSchool News,* and the July 18, 2009, issue of *The Economist* magazine.

This year, ACCESS has taken on another large role in the world of distance learning. Several international visitors have come to Alabama recently, solely to study how ACCESS helps all students to achieve more in their studies. During a recent visit from Ms. Stacey Kelly, the Collaborative Learning Technologies Officer for Rural and Distance Education in New South Wales (NSW), Australia, Alabama Department of Education Technology Initiatives section employees showed Kelly the inner workings of Alabama's distance learning environment and gave campus tours of support centers and of some of the best examples of ACCESS in local high schools in the state.

ACCESS staff also recently hosted an education consultant working with a school in South Africa who was making a second visit to Alabama to obtain more information on the success of ACCESS and how a similar learning environment can be set up there. The consultant toured ACCESS sites in Hover, Dothan, and Goshen, and viewed videoconferencing and blended classes delivered to students in those schools. Topics such as infrastructure requirements and student reception to the technologies have been discussed in order for other groups to replicate some or all of the success ACCESS has achieved. A Web conference with Alaskan education officials was also held in December to allow them to ask questions and gain insight on the framework Alabama has put in place as they move forward to implement and utilize distance learning with students in Alaska.

Future Plans

What does the future hold for ACCESS? Plans are in place for continued rapid expansion of the program for the next few years. Despite its relatively short existence, ACCESS has already been identified as the second-largest state virtual school in the country in the 2009 *Keeping Pace with K–12 Online Learning,* an annual report of state-level policy and practice. The program has received national and international attention through a number of articles in major educational and professional journals that have referred to it as a catalyst for progress in education and a trailblazer in distance learning. ACCESS sites have also recently been toured by representatives from other countries who have heard of the program's success. Grassroots support for the program, however, has been established and is rapidly growing as more and more schools are incorporating it into their instructional programs.

In every education meeting attended recently by ACCESS staff, it seems that the key presenter has mentioned global competitiveness and the future of education. What model should schools use? What is the role of e-learning, technology, and personalized instruction? Specifically, how should high schools change? One cannot look at all of these as separate initiatives. Though teachers and administrators are working hard, they are often getting a large share of the criticism delivered when there is a focus on high school graduation rates, test scores, preparation for college and work, and yes, 21st Century Skills. Some schools and systems have stepped up and are implementing new models using 1-1 solutions, e-learning, distance learning, and other education strategies to engage students in higher-order, problem solving, and creative thinking skills. High school reform is effecting change in high school teachers so that the majority of instruction is not delivered by following a textbook, lecturing, and assigning class projects aligned to state standards (with the goal of passing

a test), but by using a model of educational delivery that engages students, personalizes their learning, and brings in real-world problems to be solved with 21st Century Skills. One teacher cannot do it alone. Along with a supportive administrator and a model to follow, however, Alabama teachers are beginning to lead the way in reforming the traditional high school. The ACCESS transformational model must bring change to all teachers in a structured format that is patterned to continually accept change, since no one has determined the best way to make this happen or to keep pace with the increasing rate of global change.

> *"Participation in ACCESS has made our students more motivated and engaged and has allowed them to gain confidence, both academically and with their technology skills. Students' grades have also improved. This glimpse of the power of technology has changed how we think about the use of technology and how we teach. It has contributed to our decision to put our technology on a fast track and we are now moving toward a 1-1 [computing] initiative. ACCESS has helped us begin to move from "good to great."*
>
> — Dr. Martha Rizzuto,
> Former Superintendent,
> Tarrant City Schools

More and more states and educational entities are beginning to value e-learning as it connects students to others and overcomes some of the equity issues found in some states. This is a much bigger problem than having to decide if a class should be taken online or in a traditional face-to-face classroom or even in a blended classroom where delivery methods are combined. The ACCESS model proposes that the quickest and most cost-effective way to totally transform a high school is to bring in 21st century teaching and learning through a complete distance learning program in which the teachers in that school are delivering classes to other schools, while, at the same time, their own students are receiving classes from other schools via a blended approach that is determined by the needs and learning styles of individual students.

ACCESS Distance Learning is setting the stage for total high school reform and ultimately large-scale economic development in Alabama. How? Connectivity, teacher training, high-quality course content, setting a vision, and providing the tools that whet the appetite are factors that make this initiative very different from instructional delivery in the traditional virtual high school.

At the state level, support is given by providing the technology tools, connectivity, course content, help desk, teacher professional development, and pay for teachers. The center of the action is still the high school in the local community. The principal there makes decisions and the school awards the credits and diploma. Once students take an ACCESS course, they begin to see the possibilities these additional courses can offer to them in support of their career goals. Instead of one foreign language, they may choose to have two or even three foreign languages mastered before they graduate from high school. As

high school teachers add distance learning courses to their daily schedules, they begin to see the possibilities provided by these delivery models and rich digital content, and the value of engaging students by using technology tools in community and group projects that are changing the way they teach. These same teachers now are going back to their local boards of education with a new vision for their schools and their traditional classes.

What does this do for the local high school and community? It allows the school to offer a basic education, but to move beyond this to offer an education that is world class. This, in turn, stimulates economic development for the community by providing a work force prepared for 21st century jobs and a school system that is ready to support the ever-growing diversity of the population.

For specific details of the ACCESS Distance Learning state plan, refer to the ACCESS Web site at *http://accessdl.state.al.us.* This plan was presented to the Alabama Board of Education in September 2007 and approved by that Board. The ACCESS task force will be convened again shortly to begin the task of updating the plan with goals for the next five years. Specific plans are to include moving to middle school grades, incorporating true self-paced, competency-based course completions, and credit recovery by standard. Course redesign and development plans include mobile computing and gaming, as well as adding unique Career Technical courses. Partnership expansion plans include more organized virtual field trips, particularly with Alabama partners such as NASA and the Dauphin Island Sea Lab.

It is the desire of ACCESS to share its vision so others can put together individual pixels and form their own images of what their classrooms, schools, districts, states, or nation can become.

Links

http://accessdl.state.al.us

http://www.sreb.org/page/1295/publications.html

http://www.alsde.edu/html/CoursesOfStudy.asp

http://www.kpk12.com

Colorado Online Learning (COL)

Chris A. Rapp, former Executive Director, COL

Dr. Tim Snyder, former Executive Director, COL

Jodi Holzman, Director of Curriculum and Instruction, COL

Kristin Kipp, former Co-Director of Curriculum and Instruction, COL

Colorado Online Learning is a state-funded nonprofit organization that serves as the statewide provider of supplemental online high school courses. COL currently serves students in more than half of Colorado's school districts, offering over 75 courses across the curriculum. Colorado Online Learning's mission is to collaborate with schools in providing high quality online learning opportunities for students and teachers.

Colorado Online Learning
www.col.k12.co.us   A 501(c)(3) NON-PROFIT ORGANIZATION

http://www.col.k12.co.us/

Historical Perspective and General Overview

The Colorado Online School Consortium (COSC) began in 1998 as a joint venture between fourteen school districts (see Table 4-1) through funding from a Technology Learning Challenge Fund grant administered by the Colorado Department of Education (CDE).

Original COSC School Districts		
Boulder Valley	Denver Public Schools	St. Vrain Valley
Buena Vista	Jefferson County	Summit
Cheyenne County	Moffat County	Thompson
Custer County	Monte Vista	Windsor
Durango	Pueblo 60	

Table 4-1. Original COSC School Districts

Led by a core group of volunteer e-learning pioneers (see Table 4-2), COSC provided high school students with an opportunity to access courses that were led by teaching professionals throughout the state while remaining enrolled in their local school district. The COSC cooperative provided advanced placement, remedial, and enrichment courses to students who did not have access to them at their local face-to-face school or who needed greater scheduling flexibility.

Key E-learning Pioneers	
Eric Feder	Colorado Department of Education
Stevan Kalmon	Colorado Department of Education
Jeanne Ross	Denver Public Schools
Mark Friedman	Thompson Valley School District
Lis Lord	St. Vrain School District
Libby Black	Boulder Valley School District
Frank Klein	Pueblo School District 60
Robin Ziperman	Summit County School District
Alan McFadden	Monte Vista School District
John Adsit	Jefferson County School District
Barb Tacker	Jefferson County School District
Sam Radovich	Jefferson County School District/COSC Staff
Ed Adams	Summit County School District/COSC Staff
Ron Harrison	COSC Staff
Maryann Peña	COSC Staff
Bridget Kreutzer	COSC Staff
Tim Snyder	COSC Staff

Table 4-2. Key e-learning pioneers who nurtured the COSC concept

Colorado-licensed teachers were recruited to lead the courses offered by COSC from the partner districts. During the summer of 1999, teachers developed their online, standards-based classes to be delivered by Jones Knowledge's e-education platform in the fall. The classes were designed to follow a traditional school calendar, allowing students to start and end with their regular school classmates. Students were able to choose courses from core content areas and electives.

COSC's inaugural year, 1999/2000, saw 60 registrations in 18 courses. The number of registrants increased to 200 in 2000/2001. A board of directors was established in the 2000/2001 school year in order to maintain the project focus, establish best practices, and expand to other districts in the state. In 2001, the consortium applied for and received a Technology Learning Challenge Fund grant to continue the online offerings for the state's high school students. Boulder Valley School District's Libby Black was the principal grant writer.

Ron Harrison served as Interim Director of the COSC until July 2001 when Dr. Tim Snyder was chosen to direct the project Dr. Snyder hit the highways and back roads of Colorado to share the vision of online learning with superintendents, principals, counselors, and teachers, eventually expanding to over 70 partner districts. The success of these efforts was evident in the 2001/2002 school year as enrollment numbers more than doubled, recording four hundred and fifty students enrolled in one or more of the 24 courses offered that year.

This same year the Colorado Department of Education facilitated a statewide E-Learning Task Force to establish the parameters of a Request for Proposal (RFP) to qualify for federal Enhancing Education Through Technology (EETT) funding. The task force recommended the name Colorado Online Learning (COL) for an organization designed to develop and deliver high-quality, standards-based, supplemental online coursework for Colorado students. The Board of Directors asked Dr. Snyder and his staff to submit a proposal under those guidelines, with the understanding that, if awarded the grant, COSC would transition to COL. Jefferson County's John Adsit co-chaired the proposal committee.

The proposal COSC submitted in 2002 to receive EETT funding was endorsed by representatives from 73 districts. In October 2002 the $700,000 grant was awarded to COSC, marking the transition to the program's new name Colorado Online Learning (COL). The San Luis Valley BOCES was appointed fiscal agent. (Jefferson County School District and the Mountain Board of Cooperative Educational Services had successively served as fiscal agents prior to this time.)

The COSC Board of Directors formed a 501(c)(3) nonprofit organization in 2002 to support e-learning initiatives. Since the Colorado Online School Consortium had no legal status other than that of "attachment" to a governmental entity that qualified as a fiscal agent, it had no authority to employ personnel or enter into contracts. Its board could only be advisory to the board of its fiscal agent. Despite the limitations of that arrangement, the consortium of school districts continued to grow in number and capacity. As part of building capacity, the advisory board sought to create a support mechanism for statewide online learning—specifically an entity that could legally accept and disburse donations of equipment and money. They submitted an application for federal nonprofit status—under the name of Colorado Online Learning—and received the necessary approvals. During this time, the continued growth of the consortium and the number of districts desiring online

courses heightened the need for greater levels of business agility. Online teachers needed to be employed and more contracts executed for course development and other business interests. The need for more business agility intersected with the approval of the nonprofit status of the 'new' Colorado Online Learning. With the approval of its fiscal agent, the old COSC board transferred its assets to the nonprofit and COL was thus positioned to create the next generation of supplemental online learning services to Colorado schools and students. The COSC foundation held annual meetings but largely lay dormant for the next three years.

One superintendent of a rural district reports that students without online access at home, out of necessity, make the most of their computer time at school. "We do have students who do not have computers/ internet at home. As a four day a week school with students driving 30+ miles to attend, we have issues of limited computer access. [It] forces students to be more responsible with their time and online access."

— Superintendent comment

The COSC board (which could only serve in an advisory function) consisted of incredibly dedicated founding members who were mid-level managers and teachers in their respective school districts. It was noted by state policymakers that the growing capacity and service interests of the new COL necessitated a board comprised of senior superintendent and director-level school administrators. This would not only give COL more visibility and influence in Colorado's school districts, but would also give it more clout in the inevitable funding discussions that would take place upon the expiration of federal grants.

The new COL Board of Directors was established in 2002 with representatives from the following districts: South Routt County, Colorado Springs District 11, Denver Public Schools, Jefferson County Schools, Aurora Public Schools, Huerfano School District, and Eads School District.

In addition to the new board, the 2002/2003 school year was marked by another increase in student participation, with an assist from 175 registrations (mostly high-poverty/high-risk students) in COL's first Summer Institute.

Due to its small course and student load in the beginning, the old COSC did not facilitate a Request for Proposal process when it selected its original course host. The COL Board of Directors and administration noted the growth of the organization and its need to run a full selection process to ensure best-use of available funds. So, as part of its evolving business practices, the board directed an RFP for Learning Management System providers and, after extensive examination, eCollege was selected. The transition was made during the summer of 2003.

In the 2003/2004 school year, partnerships were effected with the MathStar Program, Colorado Council for the Arts, Denver Public Library, Denver Museum of Nature and Science, Denver Center for the Performing Arts, and others. These partnerships facilitated course development, learning innovations, and more instructional resources. Dual-credit options were also instituted via agreements with UC-Denver, Adams State College, and Otero Junior College. Dual-credit courses were popular with students because they enabled them to complete college credit while still in high school. Course tuition was paid by school districts as an extension of Colorado's Post-Secondary Education Options program.

Ninety-five school districts registered students in 2004/2005. New services included an online poetry class and club, programming for expelled students, open enrollment, and a Spanish for Educators professional development course.

The expiration of COL's federal grant created a fiscal challenge solved temporarily by relying on financial reserves and a price hike from $100 to $300 per semester seat. To position itself as a standalone organization with legal operating authority, the COL board facilitated an agreement in the summer of 2005 with the COSC foundation board to combine assets and change the foundation name to Colorado Online Learning. COL's board president, Michael A. Poore, was re-elected president of the new nonprofit board of directors.

New services added in the 2005/2006 school year included more middle school courses, courses for out-of-state students, and an option for parents to take courses.

The need to raise the course fee from $100 to $300—since the federal grant no longer was available to subsidize services—brought down registrations for the year. The $300 price point proved to be a major deterrent to rural schools already cash-strapped by revenue shortfalls occasioned by declining enrollment and Colorado's tax limitation provisions.

COL's 2006/2007 year started with the creation of a professional development course, Supporting Student Learning Through Technology Integration, and CDE and the Colorado Commission for Higher Education provided grants that enabled over 1,100 Colorado teachers to participate. Fall student registrations remained in the 600 range. Additionally, House Bill 06-1008 provided small districts with a state reimbursement fund that offset some of their costs.

Chris Rapp was selected to serve as COL's new executive director in January 2007 to enable Dr. Snyder to facilitate legislation in behalf of state support for COL. That goal was realized with the passage of House Bill 07-1066. It provided $480,000 for each of the next three years to the Mountain Board of Cooperative Educational Services to select and fund a statewide provider of supplemental online education courses. COL was selected as that provider. 2007/2008 registrations increased to 2,000 when the course fee was dropped to $200, as allowed by the legislative funding mechanism. A historical summary of these changes and related funding can be found in Table 4-3.

In April 2010, Dr. Terry N. Bishop was selected to serve as COL's new executive director after Chris Rapp moved on to a new position. Currently, the House Bill that funded COL for the last three years has been extended indefinitely, allowing COL to continue to be a part of the online education landscape in Colorado.

Year	Enrollment	Courses	Funding Sources	Major Events
1999/2000	60	18	District contributions/$100 course fees	COSC started with 14 districts
2000/2001	200	19	District contributions/$100 course fees	Project development/grant writing
2001/2002	450	24	TLCF $721,000/$100 course fees	Dr. Snyder appointed executive director/CDE task force creates state RFP guidelines
2002/2003	1224	33	EETT $700,000/$100 course fees	Name changed to COL/COSC creates foundation/Summer Institute
2003/2004	1636	43	EETT $700,000/$100 course fees	Transition to eCollege/partnerships & dual credit instituted
2004/2005	1921	50	EETT $700,000/$100 course fees	Online poetry club started
2005/2006	1349	63	EETT $400,000/$300 course fees	Transition to COL 501(c)(3)
2006/2007	1216	67	State $116,000/$300 course fees	HB 06-1008/Prof Dev course—1,100 teachers
2007/2008	1891	75	State $480,000/$200 course fees	Chris Rapp appointed executive director/HB 07-1066
2008/2009	1700	76	State $480,000/$200 course fees	Dr. Terry Bishop appointed executive director
2009/2010	1380	75	State $480,000/$200 course fees	HB 10-1037

Table 4-3. COSC/COL Historical Summary

Colorado Online Learning continues to emphasize collaboration and service with schools and districts in providing expanded educational opportunity for students in all performance levels. Awards include:

- Grant Recipient – Technology Learning Challenge Fund (TLCF) - 1998

- Grant Recipient – Enhancing Education Through Technology (EETT) - 2002

- Accreditation Received – North Central Association (NCA) and The Commission on International and Trans-Regional Accreditation (CITA) - 2004

- Grant Recipient – Improving Teacher Quality (Title II), Supporting Student Learning Through Technology Integration - 2006

- Grant Recipient – Colorado Financial Literacy Grant Program - 2006 & 2007

- Awarded Statewide Contract – Supplemental Online Education Services, State of Colorado - 2007

- Featured in U.S. Department of Education publication Connecting Students to Advanced Online Courses – 2007

> *"After Dee Chasarik was named Colorado Secondary Online Teacher of the Year, a parent wrote: "We saw that Travis's Personal Finance instructor had been honored. He thought both her and his Music Appreciation teachers were great. He has decided to major in Operations Research & Financial Engineering because of the impact Mrs. C had on him in the class he took from her.""*
>
> — Parent comment.

Two significant lessons can be learned from COL's historical journey. First, COL has benefited significantly from its status as a nonprofit provider. School districts prefer working with an organization whose sole purpose is to serve students and serve schools, without other motive. Second, it has been absolutely essential to COL's success to find a price point at which the organization can continue to grow. With a course fee set too high, there are fewer enrollments since schools cannot afford the program. With a course fee set too low, the organization is unable to gain the necessary funds to continue to grow and improve. A recent poll of Colorado superintendents shows that at least 79 percent would be "very likely" or "somewhat likely" to enroll more students if the course fees were lower. This could explain COL's current declining enrollment, a challenge the organization must face in the future.

Administration and Policy

Organizational Structure, Mission, and Funding

Colorado Online Learning (COL) is currently organized as a 501(c) (3) nonprofit organization. COL is governed by a Board of Directors consisting of seven individuals with diverse backgrounds, many with deep levels of experience in the education and technology industries. This Board meets four times each year and many members have defined roles such as President, Vice-President, Secretary, and Treasurer.

COL currently employs four full-time staff members who handle the administrative, instructional, and technical leadership duties for the organization (see Figure 4-1). These four positions include:

- ▪ Executive Director

- ▪ Director of Curriculum and Instruction

- ▪ Student Services Director

- ▪ Technical Services Director

All COL staff and the Board of Directors operate in support of the COL teachers and students.
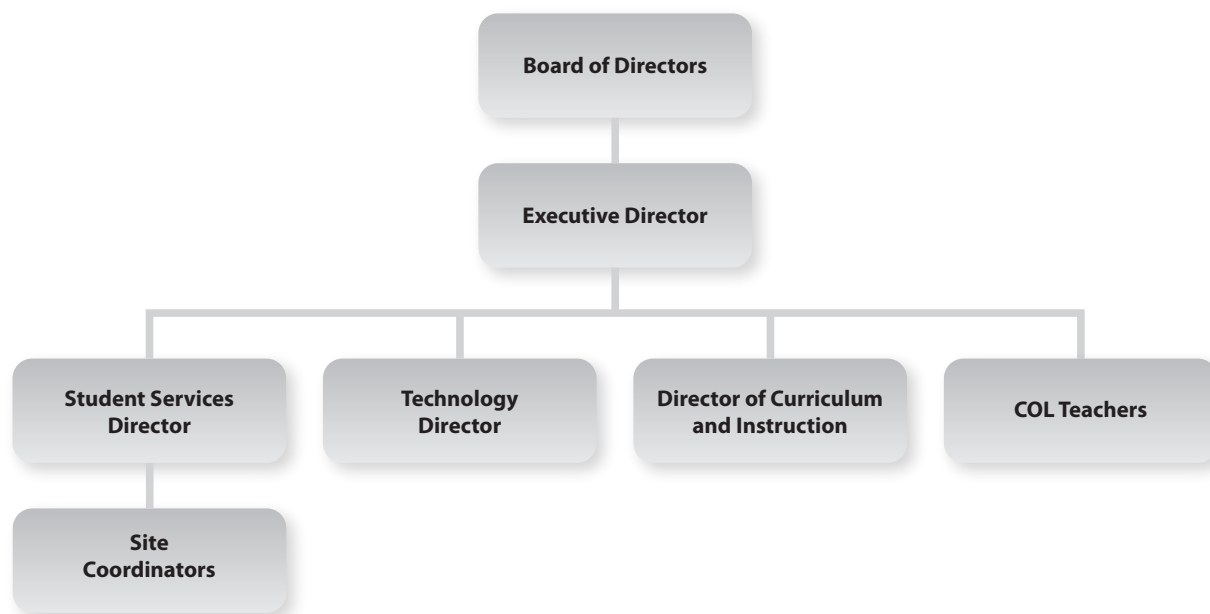
Figure 4-1. COL Organizational Structure

The primary mission of COL is to collaborate with schools statewide in using online learning to improve educational outcomes and opportunities across a broad range of student populations. COL provides affordable, high-quality, standards-based supplemental online coursework.

All COL courses are designed based on the Academic Standards for the State of Colorado. These Model Content Standards, which can be found at *http://www.cde.state.co.us/cdeassess/UAS/index.html*, are defined by the Colorado General Assembly and the Colorado State Board of Education. In addition, COL evaluates every course using the National Standards of Quality for Online Courses published by the International Association for K–12 Online Learning (iNACOL, *http://www.inacol.org/*).

COL is not a diploma granting institution; it is an online education program that supplements or adds to the course offerings of a local Colorado school. Students typically access COL courses from their local schools and only take one or two online courses at a time. While COL is a regionally and nationally accredited institution, the local school district is responsible for officially granting the student credit for the course taken. Once a student has completed a COL course, a percentage grade is supplied to the local school district, and they add the course to the student's transcript. COL has maintained a course completion percentage of approximately 90 percent (see Table 4-4)(The Public Good, 2010, p. 7).

Fall 2009 Success Rate				
	Pass	**Fail**	**Inactive**	**Success Rate**
Business	44	3	3	93.6%
Art	22	3	4	88.0%
Electives	15	1	9	93.8%
Language Arts	41	9	10	82.0%
Math	36	7	12	83.7%
Music	4	0	0	100.0%
Science	59	8	8	88.1%
Social Studies	122	11	10	91.7%
Technology	18	2	1	90.0%
World Languages	262	23	4	91.9%
TOTAL	623	67	61	90.0%

Table 4-4. Course Completion Rate by Subject Area—Fall 2009

To help ensure student success, COL requires that local schools assign a Site Coordinator to support the students taking COL courses in their school. COL provides Site Coordinators with training and a handbook to help them learn how to help their students succeed. Local Site Coordinators serve as the first point of contact at their schools. More information on Site Coordinators can be found in the Best Practices section of this chapter.

COL's ability to offer online courses to students across the state is supported by two primary funding sources. The first funding source is the state of Colorado through House Bill 07-1066, which was passed in late spring of 2007. This bill provides $480,000 per year toward the delivery of supplemental online education across the state. Although the bill initially provided funding for just three years, it was recently approved to continue funding indefinitely. The Mountain Board of Cooperative Educational Services was chosen to administer this program, and they were charged with selecting and funding a statewide provider for supplemental online education. Colorado Online Learning was selected as that provider for the last three years. COL's second significant source of funding comes through registration fees charged to individual school districts for enrollment of their students in COL courses. House Bill 07-1066 prescribes a per course enrollment fee of $200 per student per term. This fee is capped by the bill.

HB 07-1066 was championed by a bipartisan group of legislatures with a goal of extending education beyond the traditional classroom and providing greater academic options to students across the state, especially in rural school districts.

Accountability and External Evaluation

Colorado Online Learning has a variety of accountability measures in place to ensure quality instruction and administrative support.

1. COL became fully accredited by the North Central Association and the Commission for International and Trans-Regional Accreditation in 2004. It was again accredited in spring of 2010 by AdvancED.

2. COL employs an external evaluation organization (The Public Good, Inc.) to monitor and report on the program. This evaluation is supported by consistent surveying of students, teachers, and Site Coordinators. Our evaluation process has led to a variety of changes in policy and practice over the past eight years, including additional support for Site Coordinators, updating and improving the course Quality Assurance Process, and making an explicit connection between COL course content and the associated State Standards.

3. Under HB 07-1066 COL is responsible for reporting to the Education Committees and the Joint Budget Committees of the Colorado State Legislature regarding a number of accountability issues. Each year COL reports to Colorado's Legislature and the Colorado Department of Education on the following items:

    ▪ The number of **registrants** in supplemental online courses, disaggregated by the school district, charter school, or BOCES that registered the students;

    ▪ The supplemental online **course titles** offered and the number of registrants per course;

    ▪ **Completion statistics** for each supplemental online course, disaggregated by semester;

    ▪ The number of supplemental online courses taken for **dual credit** (both high school and post-secondary credit), disaggregated by post-secondary institution and school district;

    ▪ A list of the supplemental online **courses developed or revised** by the contract provider;

    ▪ The strategies used successfully to facilitate **student success** in supplemental online course work;

    ▪ An **analysis of the reasons** school districts, charter schools, and BOCES use supplemental online courses;

    ▪ A description of any **unique uses** of supplemental online courses by school districts, charter schools, and BOCES;

    ▪ A description of any **barriers encountered** by school districts, charter schools, or BOCES in using supplemental online courses;

- A representative sampling of **student and administrator comments** regarding participation in supplemental online courses;

- **Trend data** related to the supplemental online learning environment; and

- An accounting of the **expenditure** of the funds allocated to the Mountain BOCES pursuant to this section, which shall include an accounting by the Mountain BOCES and by the contract provider.

All COL state reporting and evaluations are available at
http://www.col.k12.co.us/aboutus/evaluationreports.html

COL is also held accountable by the online education "marketplace." School districts across Colorado are not required to use COL as their online education provider, and as the online education market grows, local districts have a variety of choices when it comes to enrolling their students in online courses for credit. COL must continue to offer a quality service to each of these districts in order to remain an option for their students.

Online Instructors and Professional Development

Colorado Online Learning currently employs thirty-two part-time instructors. All COL teachers work as independent contractors, and the average instructor teaches two or three courses for the organization. Each COL teacher is required to hold a Colorado teacher's license and be considered highly qualified in the subject she teaches. During the spring 2010 semester, the student-to-teacher ratio in COL courses was less than 9:1. It is COL's policy to limit course sections to a maximum of 25 students for each teacher. Only in special cases will we allow a greater number of students. This policy was put into place to both encourage an interactive online environment among all participants in the course and to empower the teacher to provide meaningful feedback to students on a regular basis.

The instructional staff comes from a variety of diverse backgrounds, but most COL teachers are currently employed or recently retired classroom teachers. COL does have a small group of instructors teaching six or more course sections for our organization. These instructors have chosen to make online teaching their primary profession, and they often work for COL and other online learning institutions.

COL teachers are recruited through referrals, communications with discipline-based teacher organizations, Web sites focused on K–12 online learning, and through the COL Web site. For most instructional disciplines, a variety of high-quality candidates apply.

The responsibilities of COL instructors are well defined and every instructor is issued a Teacher's Manual with detailed expectations. COL teacher duties are outlined as follows:

- Overall direction, planning, and facilitation of the course(s)

- Updating/revising courses as needed to ensure accurate and comprehensive content

- Aligning course content to applicable state/national standards

- Maximizing student completion rates via early intervention and sound pedagogy

- Availability to students during the entire semester

- Frequent communication with students, Site Coordinators, and parents as needed

- Timely response working with online students, generally within one business day

- Posting of grades in the platform grade book in a timely manner

- Completing necessary class reports for administrative purposes, including final grade reports

- Advising COL staff of class and student needs

- Participating in staff development as practical

- Informally helping to market *Colorado Online Learning* to schools and students

The COL full-time administrative staff offers extensive support for teachers. The COL Technical Services Director provides instructional design and technical support for teachers as they work to improve the content and functionality of their COL course. The COL Student Services Director works as a liaison with school districts across the state to encourage student engagement and success in courses. The COL Director of Curriculum and Instruction works directly with the COL teaching staff to support improved instruction and increased course content quality. All COL staff organize and offer yearly professional development meetings for teachers where they gather in person to work on a variety of issues related to the improvement of COL online instruction.

COL leverages the benefits of a relatively small organization by developing personal relationships between staff and all instructors. These relationships go a long way toward fostering a true team effort to serve online students.

COL Course and Student Enrollment

Colorado Online Learning courses are open to all K–12 students in the state of Colorado. In the 2009/2010 school year, COL had 1,386 enrollments, part of a trend of decreasing enrollments. Currently COL serves students from 84 of Colorado's 178 school districts (The Public Good, 2010, p. 2). Over 100 of Colorado's school districts have enrolled students in COL courses during the ten-year history of the organization. School districts are not required to sign a contract with COL to enroll students, enabling districts to register a single student or hundreds of students in COL courses.
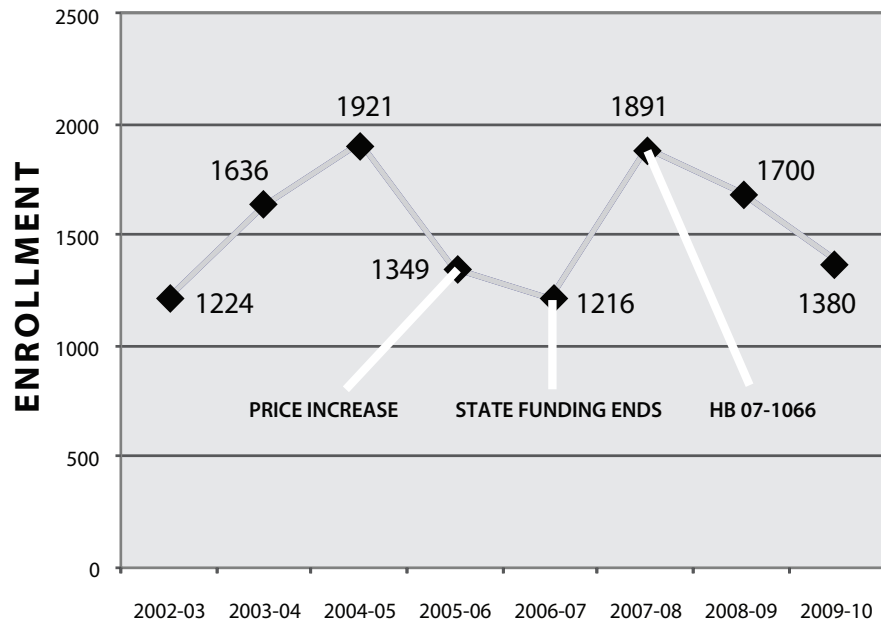
Figure 4-2. Enrollment of COL Students, 2002–2010 (Please note these figures do not include summer enrollment numbers.)

COL offers over 75 courses that span across the entire high school curriculum from core courses to a variety of enrichment and elective courses. COL offers several courses in each of the following disciplines:

- Language Arts

- Mathematics

- Social Studies

- Science

- World Languages

- Business

- Technology

- Arts and Music

- And a variety of additional electives

A breakdown of courses taken by content area can be found in Figure 4-3. COL's World Language courses have been growing over the past few years due to new graduation requirements and a shortage of qualified world language teachers in rural areas.
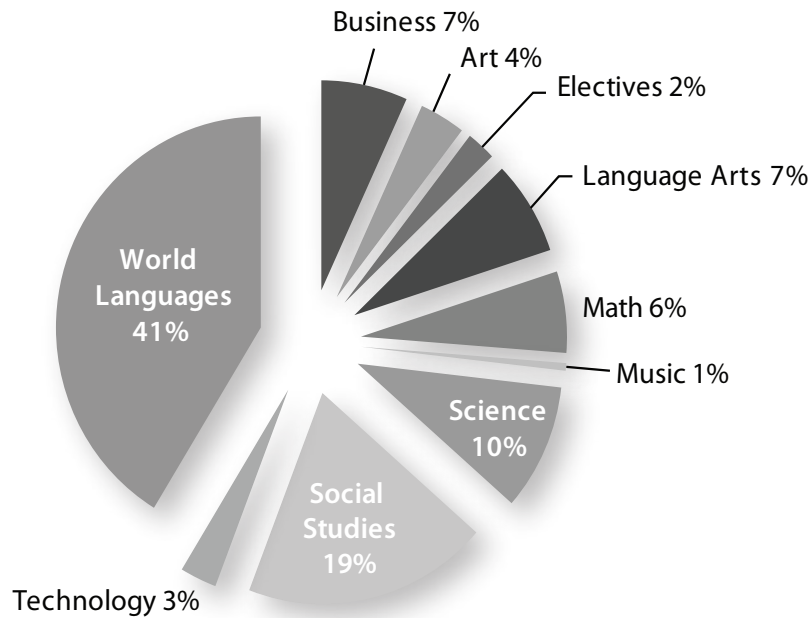
Figure 4-3. Enrollment by Subject—Fall 2009 (The Public Good, 2010, p. 11)

COL provides an online registration process that allows students to self-register and have their choices approved by both COL and a local Site Coordinator at the student's district.

Outcomes and Lessons Learned

The establishment and development of Colorado Online Learning has been a labor of love by successive teams of educators, legislators, and other stakeholders—many of whom devoted astonishing numbers of unpaid hours. Their ongoing enthusiasm and progress are even more remarkable when considering some of the major hurdles that had to be overcome.

The slow acceptance of COL's role in education is a result of the state's political climate in the years 2001–2007. Full-time online learning funding gained the first foothold in Colorado and its adherents successfully lobbied against funding for COL by arguing that districts should pay for supplemental online courses strictly from district funds. Funding was further compromised as a result of the Taxpayer's Bill of Rights (TABOR). TABOR's 1992 passage created a downward ratcheting of state taxes, which in turn dried up funding sources for new programs.

A second hurdle was confronted at the district and school levels. COL has had to deal with a lack of district funding support. Districts have been hard-pressed to redesign budgets in favor of online courses, especially in view of the annual cuts occasioned by naturally occurring declining enrollment patterns and state funding shortages.

Public education can be slow moving toward change. A range of resistance to change was also demonstrated by teachers. Traditional brick-and-mortar teachers have been somewhat reluctant to embrace online learning formats for fear that their jobs may be jeopardized or that they may have to retool themselves with technology application skills.

Despite these hurdles, Colorado Online Learning thrives as the state's *de facto* provider of supplemental online learning courses to schools and students. In serving this role, COL has benefited nearly 10,000 students from 100 districts. One significant accomplishment is the recognition COL has gained as a viable source of high-quality support for schools in expanding and equalizing educational opportunity for their students. Geography no longer determines the quality of a student's education—COL's 75 online courses are delivered right to the schoolhouse, no matter its size or location.

Another accomplishment is the opportunity COL offers to students to remediate their knowledge by enrolling in summer school credit-recovery courses. Students can also explore their potential through dual-credit options available each semester through our participating post-secondary institutions.

One final accomplishment of note is the recognition COL has gained from district leaders and teachers in face-to-face schools. Once viewed as a threat to Colorado school districts, COL is now considered a viable option for schools losing teachers. COL teachers have filled the void left by departing physics, math, and world language teachers. In addition, COL promotes 21st century learning tools for all Colorado teachers through professional development options. Over 1,000 teachers have registered in COL professional development courses.

Best Practices

Student success has been the overriding focus of Colorado Online Learning from its inception. Success rates are carefully monitored by the Director of Student Services, who notifies Site Coordinators and students of failing grades on a weekly basis and calculates course completion statistics at the end of each term. Extensive discussion is held by board members, administrators, online faculty, and on-site school officials relative to improving those rates. For this reason and others, the overall success rate has steadily increased from approximately 60 percent to over 90 percent in recent years.

The following categorizes COL's efforts to improve students' success rates.

School-Based

Colorado Online Learning deploys five main school-based strategies: (a) contracting for high-quality evaluation services by an independent evaluator, (b) implementing a Quality Assurance Program for courses, (c) employing a Student Services Director, (d) employing a Technology Services Director, and (e) initiating a Continuous Quality Improvement effort.

Evaluation

From 2001 to 2010, The Public Good, Inc. provided annual reports that formed the basis of high-level discussion. They are also posted on the COL Web site for public disclosure and transparency. The reports provide evidence-based evaluation of the quality of products and services, including insightful analysis of the student and teacher surveys conducted each semester by the evaluator. For example, the following is extracted from the 2005/2006 year-end report (The Public Good, 2006, p. 4):

> *With regard to program outcomes, COL continues to improve its record of success. COL is serving its priority populations, working to provide equal education opportunities, and improving its student success rate to a new high of 92%. More than half of the districts participating in COL are high-need, high-poverty districts, and 89% are considered high academic need. Course offerings are available to meet the needs of a diverse student population, and the COL staff is pro-active in reaching out to new and underserved populations. Finally, the student course completion rate (or student success rate) continues to improve each year, breaking the 90% mark with the Spring semester.*

The annual evaluation work includes updating the COL Quality Assurance Program and survey instruments, collecting and analyzing survey data, and writing and delivering a report to the Colorado state oversight committees and the Colorado Department of Education. Information from this evaluation will be used to strengthen the quality of services provided by COL.

Quality Assurance Program

A second mechanism for improving student performance is the Quality Assurance Program (QAP) established by the COL Board of Directors. The QAP aims to provide rigorous, quality course content using the best instructional practices in online learning. The QAP addresses various aspects of online learning, including:

- Rigorous evaluation of the content in and instructional design of courses

- Ongoing comprehensive evaluation and improvement of course content and instructional practices

- Continuous improvement of all aspects of COL operations, including curriculum, educational materials, services, support systems, and communications

Several principles are associated with the implementation of the Quality Assurance Program.

- Quality assurance policy and procedures are to be reviewed annually to monitor effectiveness and to ensure that they are aligned with best practices and serve the best interests of students.

- Staff and teachers are expected to take personal responsibility for professional quality and standards in all their activities within a supportive environment where expectations and standards are defined, continuous improvement and innovation are encouraged, development and training opportunities are provided, and feedback is actively sought from students and other major stakeholders.

- COL courses are aligned with Colorado Model Content Standards that are in support of the Colorado Standards Assessment Program.

The National Standards of Quality for Online Courses (adopted in 2007 by the North American Council for Online Learning) forms the basis of COL's quality assurance framework. These standards address course content, instructional design, technology, student assessment, and course management. Within that framework, COL identifies standards that apply to 21st Century Skills and teaching practices, based on materials from the Colorado Council on 21st Century Learning and the Partnership for 21st Century Skills.

"Having the opportunity to take a needed class online is very convenient. I go to a very small school and class options are limited and when a scheduling conflict arises, taking it online is the only solution."

— Student comment

All courses are scheduled for review on a three-year cycle. A course review consists of a review by the course instructor and two external reviewers, including content and pedagogy experts. The Director of Curriculum and Instruction (DCI) for COL is responsible for leading the course quality review process. The results of course reviews inform the continuous improvement process and the professional development activities COL provides for teachers.

Course instructors participate in the course review process, through self-assessment. The DCI reviews results of the course reviews with teachers and establishes next steps. Based on the content of a review, instructors may be asked to update or redesign courses. The DCI facilitates the resources needed by instructors for the update/redesign process.

By using strategies to explore the various aspects of the quality of online learning, districts, schools, and students are assured that COL courses are designed with rigorous content, aligned with state standards, and incorporate effective instructional practices. The QAP also provides a structure for improving student learning in the online environment and identifying key professional development areas for teachers. Finally, the knowledge gained from the QAP provides COL staff and teachers with useful data concerning course quality, student learning, and client feedback.

See Figure 4-4 for a graphic representation of the Quality Assurance Program.
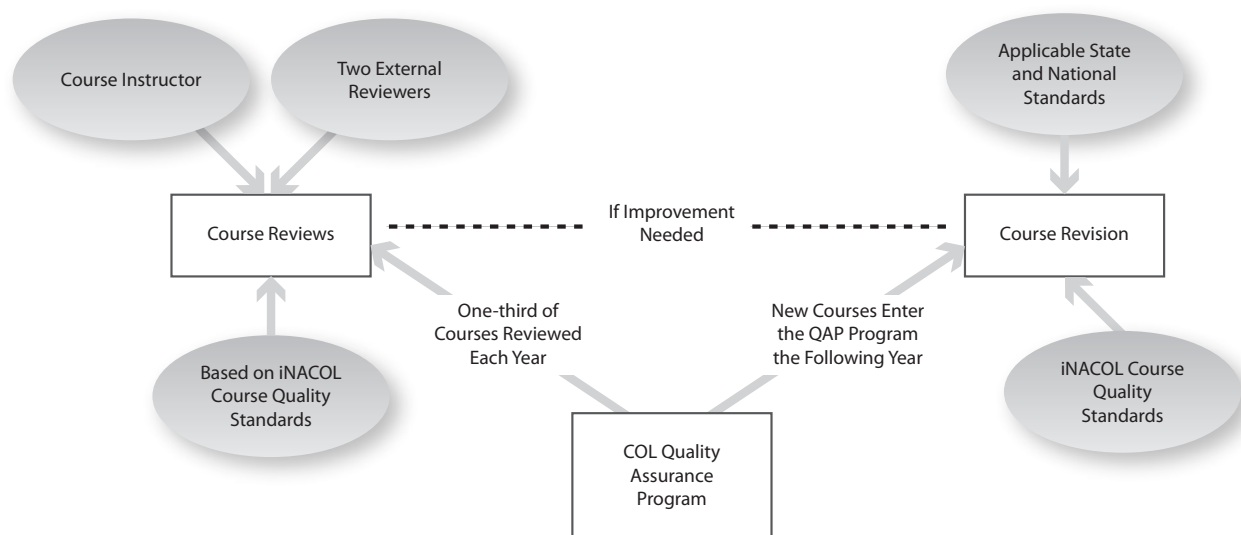
Figure 4-4. Illustration of the COL Quality Assurance Program

Student Services

The COL Director of Student Services is a linchpin to improving success rates. This individual is the central liaison between school Site Coordinators and COL teachers—ensuring the training of site coordinators, facilitating resolution of the myriad issues that always arise in working with people of various backgrounds, and monitoring student progress. She maintains Academic Watch lists based on periodic progress reports and helps Site Coordinators access the weekly progress report for each school. She communicates regularly with teachers on student needs and coordinates all the details involving the individual circumstances of students and schools. Student and Site Coordinator handbooks provide valuable information for learners and participating schools. The importance of this position cannot be overstated in facilitating the highest student success rates.

Technology Services

The COL Director of Technology Services is another key player in improving success rates. This individual designs and maintains the COL Web site and acts as the first level of technology support for students and schools.

Being an operation with grass-roots origins, COL is expected by Colorado schools to provide high levels of information and transparency in its Web presence. A complete continuum of information for students, parents, teachers, schools, and internal/external stakeholders is provided on the site.

Another key role for this individual is the technical support of COL teachers. This support includes tasks such as assisting teachers with course design work (e.g., embedding multimedia elements, creating templates and frameworks),

facilitating technology sessions at annual teacher conferences, and providing technology tips for teachers through a blog on a regular basis.

Continuous Quality Improvement

In spring 2010, COL underwent a Quality Assurance Review and Accreditation Process with AdvancED. AdvancED is the recently established organization formed by the merger of the North Central Association Commission on Accreditation and School Improvement (NCA CASI) and the Southern Association of College and Schools Council on Accreditation and School Improvement (SACS CASI).

Engaging in the continuous improvement model used by AdvancED affords COL the opportunity to articulate its vision and purpose; maintain a current profile of students, student performance, school effectiveness, and community; plan goals and interventions to improve student performance; and use results to inform next steps.

Although COL is in the beginning stages of this five-year process, the COL staff has already benefitted from the continuous improvement process by examining current practices; understanding strengths and areas for improvement; examining the COL mission statement, and setting processes in place to revisit this statement annually; and organizing staff and job descriptions to ensure COL continues to fulfill its vision and mission for its students.

Teacher-Based

COL feels that its online teachers are far and away the most important contributors to student success. A good teacher can compensate for any number of factors that can get in the way of student achievement. For example, in the 2006/2007 school year, a small district registered more than 25 students in a Spanish course because they had lost their sole Spanish teacher and couldn't recruit another one. As it happened, the district experienced severe network problems over an extended period that could easily have discouraged students. While COL made every effort to assist the district in addressing its network issues, the COL teacher went to extraordinary lengths, including site visits, to provide workarounds for her students that kept them on track.

All COL teachers are licensed in Colorado and are highly qualified as defined by the U.S. Department of Education. The majority of instructors have been teaching for more than ten years, and nearly 30 percent have online teaching experience exceeding five years. Over 90 percent have earned a master's degree or higher.

Teachers are regularly informed of student perceptions of their performance via semester-end survey results. Questions include categories related to 1) teacher response to student needs and abilities, 2) helpful feedback on assignments, 3) whether the teacher cared about the student as a person, and 4) grading criteria and promptness.

Teachers are also regularly informed relative to superintendent and Site Coordinator perceptions of their knowledge and teaching ability. Online teaching is extraordinarily visible in the supplemental environment, and the ensuing feedback

enhances the improvement of pedagogical practices. The statement below, extracted from the 2005/2006 evaluation report, summarizes COL's facilitation of professional development for its teachers (The Public Good, 2006, p. 29):

> *From its inception, COL has provided ongoing professional development opportunities for teachers, including summer workshops, a statewide symposium, online and face-to-face technology training, and informal networking opportunities. COL provides technical support, via email updates and quick responses to inquiries from the technology services director, to enable teachers to focus on teaching. In addition, teachers participate in periodic course reviews to ensure that courses meet state content standards, use appropriate technologies and employ pedagogies appropriate to online teaching and learning.*

COL provides initial training and ongoing professional development for its faculty. Initial teacher support typically includes online training on the course management system and COL policies and procedures.

An especially rewarding facet has been the annual conferences hosted by COL for its teachers. For example, the summer 2008 session provided opportunities for online teachers to collaborate, present, and share their practices. Teachers also heard a speaker provide a keynote address on *How Virtual School Instructors are Changing Teaching*. One of the main goals and outcomes of the gathering was to provide face-to-face time for our teachers to collaborate with each other. Our teachers reported that this time for collaboration was a critical component of their continued engagement and success in online learning. They also reported the hands-on sessions in the computer lab were most valuable.

In January 2008, COL started an online social networking site for all COL teachers using a Ning. This site contains blogs from each of the four office staff, forums on a variety of topics including technology, resource sharing, and COL events, Web pages for each teacher, videos, and photos. Recently we have also hosted a professional development book study in this space. The goal of the site is to create a community of learners among COL teachers and a space for sharing resources, opinions, and ideas.

Ongoing professional development opportunities are important to COL teachers. Comments from a recent teacher survey (Colorado Online Learning, 2010) suggest that, for many, time and skill constraints limit their ability to improve course content.

"I am still learning the content of courses created by previous teachers. I see the need to change some content, but I don't have the technical skill or time to build the new content."

"I am pleased with [my course], though if I had the time or financial support I'd like to go through the entire content and see how I could improve it."

Another teacher points to a desire for more time with department colleagues:

"Overall, I am very pleased with the support that instructors get from the COL staff. If I could change one thing, I would like to have more time (possibly in the early summer) where we could get together and talk face to face with other members of our departments and
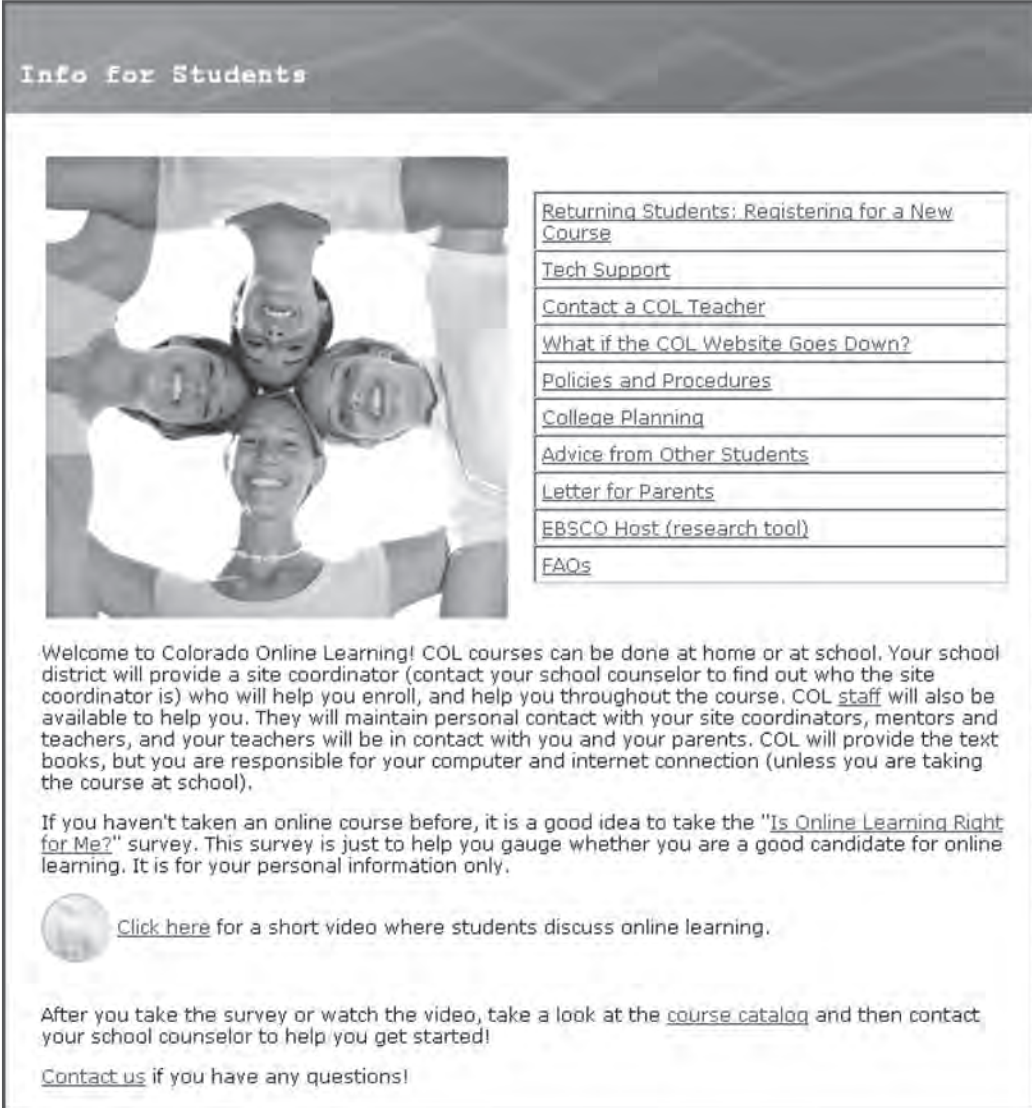
discuss what is being covered in our courses to make sure that we are preparing the students to progress from one course to the next. We also need to share teaching resources."

COL's focus on quality teachers and quality professional development has led to increased student achievement and satisfaction. We hope to continue to improve in this area through additional professional development (addressing some of the teacher concerns discussed above) and implementing a formal teacher evaluation process.

Student-Based

Support

The following is extracted from the "Info for Students" page of the COL Web site. It exemplifies the tone that is so important in working with students.

Figure 4-5. COL Web site "Info for Students" page.

The student advice page is a unique feature that engages students while giving them important tips for success.
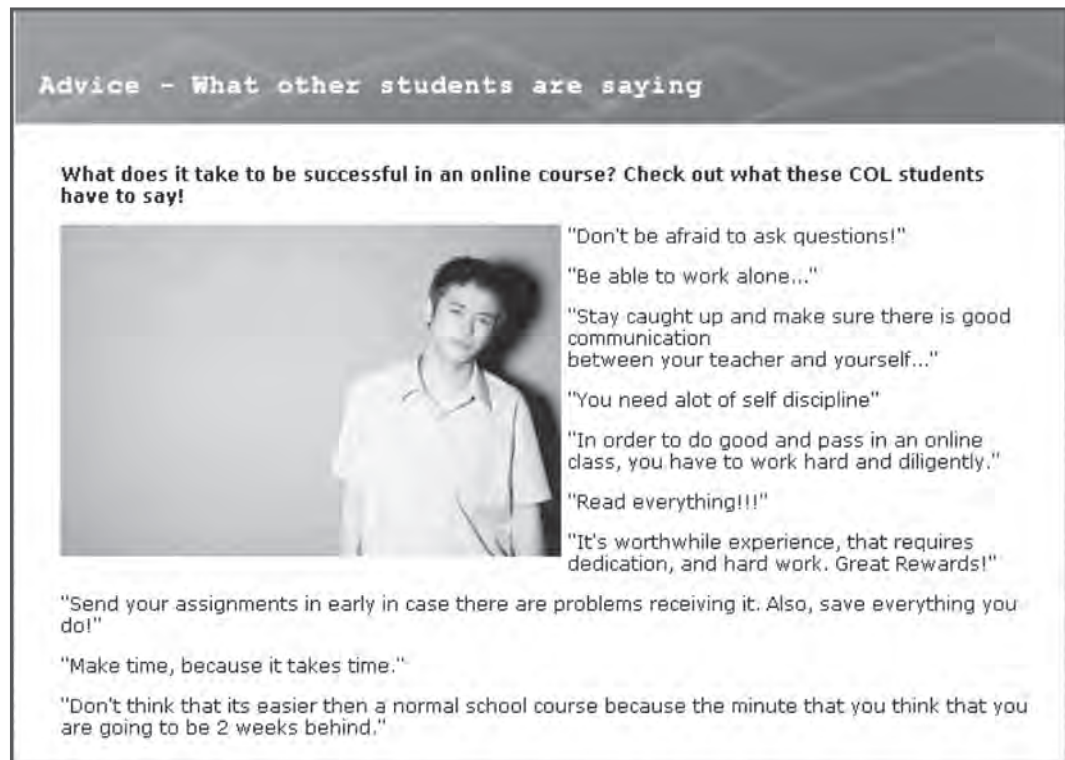
Figure 4-6. COL Web site student "Advice" page.

Course design and pedagogy are important best practices on behalf of students. General orientations are placed at the beginning of each course, and online teachers give assignments and grade points related to those orientations.

Student engagement at the beginning of the course is critical as well, and online teachers work hard to make contact with students within the first 48 hours of registration. If students aren't responding via e-mail, they are contacted via telephone.

Listening to Students

Additionally, students can watch a video of other students talking about online learning at COL. The video is available at *http://www.col.k12.co.us/vids/OnlineLearnersDiscuss.html*. The student focus groups found on the video provided one of the best ways to capture and understand students' perceptions of online learning, and also to market COL courses to schools and students, affording a two-fold benefit.

Students are encouraged to respond to the end-of-course student survey, and many teachers award credit to students for completing the survey. COL staff values student feedback by offering students the opportunity to provide detailed feedback on each course and sharing this feedback with the teacher.

Support-Based

The central support-based strategy employed by COL is the cultivation of the Site Coordinator concept. COL insists that participating schools assign a Site Coordinator who takes on various responsibilities. The primary responsibilities of the Site Coordinator include the processing and approval of student enrollments, and the monitoring and encouragement of student progress. As an individual that has direct contact with students enrolled in COL courses, it is also the responsibility of the Site Coordinator to maintain contact with COL Student Service Director and instructors. The Site Coordinator's position as an individual that has direct, face-to-face interactions with students also makes them a valuable resource for addressing several issues of online learning, such as:

- Cheating/plagiarism

- Students not logging in

- Students having technical difficulties

- Students needing extra assistance

- Students needing help with technology

Finally, the Site Coordinator serves as a liaison between teachers, students, and the district. In serving as a liaison for the district, Site Coordinators review teacher grade books for district-specific eligibility requirements and make sure a student's grade is distributed to the appropriate department to be included on their transcript. In serving as a liaison for the teacher, the Site Coordinator both distributes materials on behalf of the online teacher and provides students with a point of contact at their local school to communicate any difficulty they are having with the course.

One of COL's most promising practices involved one-day Site Coordinator workshops, offered in various regions of the state. The COL staff planned, organized, and facilitated these events, with a focus on practical strategies for supporting students in online learning. The workshops included sessions on:

- The State of Online Learning: Trends, Views and Predictions

- Nuts and Bolts of Working in the LMS

- Site Coordinator Presentation: Setting Up Students for Success

- Online Learning in Support of Students' Educational Plans

- Lunch with a Student Panel

- Online Teacher Perspective: What Students Need to Succeed

- Common Problems / Innovative Solutions

Evaluations from participants indicated a positive response to the workshops. For COL, the workshops helped to establish or cement the trusting relationships that are essential to the organization's success.

Content/Curriculum-Based

COL has created an effective partnership with teachers in allowing their autonomy within a course/curriculum framework. Teachers have course-author access and are encouraged to be "owners" of the course(s) they teach by regularly improving and updating the course design/content. COL is small enough that the central administrative staff can monitor the work of individual teachers and courses toward this end, and many excellent innovations have resulted. Online teachers can adjust the pace of the course for individual students and frequently do so on behalf of special education and other special-need students.

The course review process, required of all COL courses under the Quality Assurance Program, provides feedback to instructors and COL staff on necessary course updates and revisions. Additionally, student feedback on courses is collected at the end of each semester. Site Coordinator and teacher feedback is collected annually. This data, shared with teachers and the COL administrative staff, provides additional feedback for use in course development and revision.

COL subscribes to the Discovery Educator's Network and the National Repository of Online Courses (NROC). These organizations provide multimedia content for teachers to embed in their courses. Support and professional development for using these resources is provided to teachers.

Several COL World Language teachers collaborated on a Spanish I course redesign project. This was COL's first experience with social authoring. The group chose to approach the course redesign collaboratively because over time the Spanish I course had evolved into a variety of different courses, each tweaked and edited by different teachers. While personalized courses are desirable, it is important that the overall content and structure of the courses are consistent. COL wants to ensure that students in one course meet the same standards as students in another course and are equally well prepared to move on to the next course.

For this social authoring project to work, everyone needed to buy into the process and agree that they would teach the redesigned "master course." The process began with a conference call to organize. Of the four teachers, one was a highly skilled online course designer who wanted to take the "lead author" role. The others didn't want this role, but did agree to serve in a "consultant" role. All were located in different locales (Kansas, Denver Metro, SW Colorado, and Mexico).

The teachers preferred to communicate via e-mail, even though a social networking site in Ning was set up. They all had course access, so they could view the progress on the course anytime. The end result was a course that everyone said they liked, including the project's greatest skeptic.

The course design and content benefitted from the input of each teacher. For example, one teacher was able to provide popular soccer teams in Mexico and Spain as a cultural connection. Each teacher contributed to the recordings and listening activities for students, so many voices could be heard throughout the course. Teacher camaraderie and learning from one another was established.

Course-Based

When asked what strategies he uses to support student success, COL's College Physics instructor says: "As the course progresses I try to find out what my students' strengths and weaknesses are, and I try to address the weaknesses— by offering guidance, help in understanding concepts and solving problems, and giving emotional support. This kind of help/support needs to be somewhat different for different students, and I try to adapt to their specific needs."

The course structure is designed to provide the information required by the instructor to make informed decisions about student strengths and weaknesses. However, the design of the course cannot be separated from the expertise of the instructor teaching the course. While the course design provides the necessary foundation, it is the instructor himself who creates the environment essential to student success in this online course.

Another COL instructor uses the following strategies to support student success:

- Every course begins with an orientation exam, which informs the instructor that students have read and understood the course policies and procedures, as well as taken the orientation tutorial;

- Pre- and post-tests are administered;

- The College Composition course requires students to do a diagnostic writing— this provides information on strengths and weaknesses of student writing; and

- The English I, II, and III courses require students to turn in a Reading List, which is used to assess their reading levels.

COL's World Language courses exemplify the technologies used to support student learning in online courses. The COL German courses integrate instructor-created podcasts and video clips in each week's assignments. These audio and video files provide opportunities for students to listen to German and view German speakers in context. The instructor also uses screen recording videos to help students learn to navigate through the course Learning Management System (LMS) (eCollege).

Several of the COL language instructors use audio files to introduce themselves to students. This practice builds immediate rapport between students and the online teacher and enhances teacher social presence in the course, which is a goal for all COL courses. Students are expected to create and submit audio files in the language they are learning. These student audio files are used by the instructor to assess student learning summatively and formatively, and they are often posted in discussion forums for peers to review and respond.

The goals of this practice are to build an online community of learners, to encourage peer-to-peer interaction around the language, and to increase practice time with language. Through the use of these technologies, students are able to speak, listen to, and view language speakers as they engage in learning a language in an online environment.

In fall 2009, over 76 percent of students taking World Language courses through COL felt that taking the course was a good experience for them, and over 83 percent said that taking the course allowed them to take more initiative and responsibility for their learning (Colorado Online Learning, 2009).

Technology-Based

The LMS used by COL, eCollege, provides students with a course structure for each online course they take. The same LMS is used for all COL courses, along with an effort make every COL course have a similar look and feel.

An LMS orientation tutorial is available as soon as students register for a course. Many teachers require students to take the orientation the first week of the course by giving students a grade for its completion.

The features of the LMS that support student success include a unit/lesson structure, threaded discussion forums, live chat capabilities, e-mail, grade book, dropbox, course announcements, embedded audio/video files, a modified synchronous learning tool, and authorship privileges for instructors.

COL's student survey, administered every semester, provides staff and teachers with information about student success and/or challenges with technology. We ask students to report on the ease of navigation within a course and technical challenges with the LMS course tools (e.g., dropbox, grade book, e-mail). Students are also asked about technical problems they experienced with the school's technology equipment and internet connections. We find that most of the technology problems revolve around school-based technology equipment and connectivity. COL's Technical Services Director works with school technology personnel to resolve technology issues.

Prior to engaging in their first teaching assignment with COL, teachers complete an online orientation course to become familiar with COL policies and procedures and the Learning Management System. Local teachers often come by the office to meet the staff and talk one-on-one, thus developing rapport. Staff members are also available for support via phone and e-mail, Monday through Friday. The LMS provides help-desk assistance 24 hours a day, 7 days a week.

The annual teacher gatherings also provide opportunities to support teachers with technology. During a recent Gathering, for example, COL's Technical Services Director led sessions in a computer lab for teachers to hone LMS basics and essential skills and an advanced session to teach different methods for adding and embedding multimedia in courses.

Site Coordinators provide technology support for students on site. Much of this support happens in computer lab settings. Many students work on their COL course during an assigned computer lab class period; Site Coordinators supervise students in the lab and provide technical support as needed. The Site Coordinators act as a liaison between students, schools, parents, teachers, and COL administrative staff.

Future Plans

Colorado Online Learning has a variety of near-term and long-term goals relating to the growth and development of the program. In this rapidly evolving world of online learning and educational technology, COL believes that one of the keys to success is to have a plan, but be ready to adapt that plan. Changes in the student body, the teaching staff, and the technology that supports the learning may necessitate a rather rapid change in direction in a very short time frame. Those who have chosen online learning as a career need to understand and embrace their roles as "change agents."

Administrative

COL faces a variety of administrative, political, and business challenges in the near future.

- Managing uncertain yearly student enrollment: enrollment at COL varies significantly every year. While we anticipate additional growth in the next one to three years, the enrollment over the last year has declined. COL has traditionally been a small organization offering personal service, and we are currently engaged in a discussion about how to preserve that personal touch with the districts and students we serve.

- Communication to legislators and other stakeholders: like many organizations receiving public funds (especially those providing unique services like online learning), COL needs to consistently work on the education process. COL's future plans contain a significant focus on educating legislators and other stakeholders who may have never experienced online learning and do not engage in any rich, communicative Internet communities, which are native environments for many COL students.

- Working with local school district Site Coordinators: COL has ongoing plans to improve the training and support for Site Coordinators located at the local school districts. Over the past ten years, COL has learned that effective Site Coordinator involvement with student learning almost always leads to a much greater chance of student success.

- New business development: as an independent, nonprofit organization, COL also has plans to seek new funding sources and new business that is closely aligned with our current K–12 online learning mission.

Teaching and Learning

Several projects are planned to support COL teachers.

- COL Quality Assurance Program: COL is engaged in the third year of a three-year project to review and revise all COL courses. As described earlier in this report, this program is one of the major COL initiatives that will impact the quality of content and instruction for years to come.

- Developing an online community for teachers: similar to many online learning programs, COL teachers are geographically distributed, which makes collaboration a challenge. While COL currently uses a Ning to encourage collaboration, we would like to make even greater use of this tool in the future.

- Professional development for COL teachers: long-term plans call for an increase in the professional development opportunities that COL can offer to the teaching staff. Most of this support will be offered in the same online environment the teachers use to provide instruction for COL students.

- Teacher evaluation: while currently teachers are observed and evaluated informally on a regular basis, we'd like to formalize that process in the future, including a formal written evaluation, formal teacher observations, and even a teacher self-evaluation/goal-setting process.

- Response to Intervention (RTI): An RTI model is the focus of plans for addressing needs to improve COL's support for struggling and inactive students. COL staff is planning a pilot RTI process with a small number of courses for the upcoming semester, with a goal of system-wide implementation within two years.

Student Success and Effective Use of Technology

COL is working to understand modern students and to meet their learning needs.

- Using current Internet tools for learning: COL has plans to include more Web 2.0 and multimedia-style learning tools within the courses offered to students. To effectively accomplish this task, COL teachers will need support to integrate these resources, and COL will need to work effectively with partner districts to prevent the "blocking" of services which can support learning.

- Increasing opportunities for interaction: near-term plans call for a focus on opportunities for interaction within a course, regardless of discipline. COL has been redesigning courses that contain characteristics of traditional "correspondence and/or independent studies" courses and moving these courses toward a cohort-based model that encourages much more interaction between all participants.

- Moving beyond physical textbooks: COL is toward the end of a transition away from physical textbooks. This does not mean that students will not have the structure and resources provided by a textbook. This simply means

that the structure and content will be embedded in the course, organized appropriately for online learning, and updated much more frequently.

- High-bandwidth courses: COL long-term plans include the investigation and development of courses that take advantage of the bandwidth capabilities of Internet 2.

Links

Colorado Online Learning: *http://www.col.k12.co.us/* The COL Web site includes a wealth of information on the organization, its history, and operation.

Colorado Department of Education: *http://www.cde.state.co.us/* The CDE Web site includes a variety of information about education in Colorado. It also contains information on current state standards, around which all COL courses are built.

COL Evaluation Reports: *http://www.col.k12.co.us/aboutus/evaluationreports.html* You can find all of COL's previous evaluation reports here. They include current statistics for each of the last three years.

Colorado Legislator/Colorado House Bill 07-1066:
http://www.leg.state.co.us/Clics/Clics2007A/csl.nsf/BillFoldersAll?OpenFrameSet
This Web site contains a copy of the House Bill that funds the COL program.

COL External Evaluation – The Public Good, Inc.: *http://publicgoodinc.com/index.html*
The Public Good provides annual evaluations for COL, as well as detailed plans for improvement.

iNACOL National Standards for Quality Online Courses:
http://www.inacol.org/research/nationalstandards/
The iNACOL standards are the basis for COL's Quality Assurance Program.

COL Student Focus Group: *http://www.col.k12.co.us/vids/OnlineLearnersDiscuss.html*
This is a video of COL students talking about their experiences with the organization.

Colorado Council on 21st Century Learning: *http://www.c21l.org/*
The Colorado Council on 21st Century Learning has partnered with COL to provide professional development for teachers.

Florida Virtual School

Julie Young, President & CEO, Florida Virtual School

*Florida Virtual School serves K–12 students, including
public, private, and home-educated students,
in both a full-time and supplemental capacity.
Through our Global Services division, we also
serve students nationwide by providing courses
and services to schools, districts, and states, as
well as through our Global School, a tuition-based
program modeled after Florida Virtual School.*

*Our mission is to deliver a high-quality,
technology-based education that provides
the skills and knowledge students need
for success in the 21st century.*

Florida VirtualSchool

http://www.flvs.net/

Historical Perspective and General Overview

Rationale and Early Stages

In 1996, I gathered a small team in Orlando to brainstorm the possibility of creating an online program for high school students. We started by wondering aloud what it would look like to teach and learn online. Could it be done? What would it take to make it work for kids? And if it worked, how would it change school as we know it?

Long before we started dreaming or even had a name for Florida Virtual School (FLVS), Bob Muni, an educator and businessman, had been doing a little dreaming as well. Muni was eager to see an online learning option for Florida launched, but he couldn't make headway with his local district leaders. So he gathered a grass-roots group of business people, educators, parents, entrepreneurs, and legislators to move the idea forward.

The group soon learned about a statewide "Break the Mold" grant designed to encourage innovation in districts, so they applied on behalf of Alachua County to create an online learning option for kids. They soon learned that Orange County had also applied for the same purpose. The state awarded $200K on condition that the two counties would collaborate. Thus, K–12 online learning in Florida began.

Muni's team envisioned a program that utilized business principles, such as strong customer service, an entrepreneurial spirit, and performance-based management.

As current board chairman, Muni still holds that the board's role is to keep FLVS focused on those ideas because they have allowed FLVS to remain flexible and responsive to needs, avoiding the bureaucratic quagmires that hinder change and creativity.

Thus, our intention was always to reinvent versus reform, giving students a different way to be successful. Rather than duplicate the classroom experience where students must come to a specific location, follow a strict schedule, start at the same time and finish at the same time, we wanted to give students choices about when and where they learned. We wanted to create something that allowed them to work at their pace, adapted to various learning styles, and provided access to learning 24/7, year-round. Equally important to us was a strong relationship between teachers and families.

It was easier said than done. In order to maintain these commitments, we had to pioneer radically new approaches to public educational delivery, including:

- Year-round open enrollment

- Flexible scheduling and pacing

- Annual teacher contracts

- Performance-based funding

- Unprecedented instructional training and support

Some of these things are now common in K–12 online learning venues, but at the time they were a radical departure requiring entirely new processes and systems in order to be supported—and often requiring significant outreach efforts to win the support of lawmakers.

Description of Funding Sources

Without adequate funding, none of these achievements would have happened. Within a couple years of our launch, we received a generous state appropriation. This gave us breathing room to develop courseware and instructional strategies, and to test, analyze, get feedback, and make adjustments. We also had time to demonstrate our value to local districts without posing a fiscal threat.

Since appropriations vary yearly—or even disappear—they are rather vulnerable to changing political climates. We spent a lot of time proving ourselves to the legislature year after year.[1] Line item funding also proved a serious hindrance to growth demands since it limited capacity, which became a major frustration to parents and students. In 2003, Florida voters passed a Class Size Amendment, requiring schools to cap class sizes to 22 in middle school and 25 in high school. Passage of the amendment provided the impetus to move FLVS forward as a permanent part of the Florida Education Finance Plan so that we could serve all comers.

There were hurdles. FLVS had to, once again, educate decision makers on the value of online learning. We also had to make the case for funding the program at levels close to other districts so that quality would not suffer, and we had to establish a reporting model that allowed us to report successful completions versus attendance without requiring a new system.

We requested one critical funding stipulation: Fund FLVS fully only when students successfully complete courses[2]. This put the onus on us to implement stringent self-accountability measures to ensure quality, something we were already doing, but it also provided a remarkable way to establish credibility for ourselves and for online learning.

Being part of the state's education funding system brought new opportunities and challenges, particularly in the areas of growth and change management. Growth has skyrocketed, which was, in one way, great news since it was an indication that families were definitely finding FLVS to be a viable solution. With growth, though, we must constantly strike that delicate balance between encouraging innovation, which requires risk taking, and providing stability. Other challenges include maintaining state-of-the-art courseware, managing a highly selective hiring process, and developing a strong management and leadership base—all at a head-swimming pace.

Districts sometimes perceive the funding model as a threat since funds follow the student. If a student takes an FLVS course during the school day, a portion of the per-pupil allotment

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[1] Actually, we still do this. Though FLVS is not likely to be removed from Florida's educational funding model, we educate lawmakers regularly as to our value to the state. We see this as our responsibility to them as elected officials since they, in turn, are ultimately accountable to taxpayers to defend their funding choices.

[2] FLVS is funded based on each semester that students complete with a passing grade. Funds are released at periodic times in the year. FLVS receives a percentage of the overall per-pupil allotment, along with a small administrative overhead fee, with each successful completion, but we receive no funds for students who do not complete with a passing grade.

goes to FLVS.[3] Again, we have to continually emphasize our value, but we also have a great opportunity to proactively identify gaps and provide solutions for districts. Interestingly, local districts are remarkably unanimous in saying that FLVS is a benefit to them and to their students. On the 2008–2009 annual survey, 100 percent of our contacts in every district agreed that FLVS is a benefit to the district and to students (Optimal Performance, 2009).

Our funding journey is part of a larger battle of ideas about public education funding. Education dollars are historically seen as belonging to the school or district versus the individual student. Online learning challenges that notion in some ways, particularly when students are given a choice. What if online learning is simply a more effective choice for some, allowing them to succeed where they previously failed? That choice is too often perceived as dollars being siphoned away from the school, rather than dollars providing students with real options. The challenge is to keep the focus on students by funding effective programs that demonstrate real results versus maintain status quo. At FLVS this translates into our commitment, first and foremost, to student success and to creating effective solutions for districts. If we cannot demonstrate success, something needs to change—and we are fully committed to changing as needed when student achievement is on the line.

Supporting Partnerships

An important element of Florida Virtual School's success is the business management model we adopted, along with the partnerships that made it possible. Three early and successful partnerships were developed with IBM, Jones Knowledge, and UCompass. In each, there was mutual benefit for both sides, a key component to successful partnerships. Our partners are not just out to sell us something; rather, they share a vision with us in moving online learning forward as a whole.

The IBM partnership provided us with business expertise, a critical need for an organization filled with educators. The same was true with Jones Knowledge. We gained business insights, along with marketing support and a broader national perspective as we made inroads into the national e-learning arena. The partnership with UCompass was a win-win because we provided intellectual capital and product feedback, enabling UCompass to craft a learning platform replete with innovations.

These and other partnerships have provided tangible and intellectual resources that would otherwise have been unavailable to us. Of course, we've had to use our own educational expertise to adapt business practices for the education world, but partnerships with successful businesses enabled us to break out of the educational mold and try entirely new ways of doing things.

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[3] FLVS is currently the only district in Florida that receives funding outside of the regular school day; thus, if students take courses with FLVS outside of the six-period day, the local district is not affected fiscally.

Mission and Goals

Our mission is, in the simplest terms, to design and deliver online learning that engages students, adapts to their learning needs, and helps them to succeed as learners. FLVS currently provides the following for Florida students:

- Free access to 100+ online middle and high school courses

- Personalized, proactive instructional support from Florida certified instructors

- Access to FLVS counselors who partner with on-site counselors in local schools

- 24/7/365 access to grades, teacher comments, assignments, and coursework

- Access to teachers from 8:00 a.m. to 8:00 p.m., 7 days a week

- Responses to calls within 24 hours and assignment feedback within 48 hours

- Monthly calls to parents and students, along with numerous access points throughout the month, including phone, Web conferencing, instant messaging, texting, and even face-to-face events

- Access to online clubs, honor societies, competitions, tutoring, advisement, online and face-to-face meet-ups, field trips, and numerous special events

Accreditation

Florida Virtual School is accredited by the Southern Association of Colleges and Schools (SACS) and AdvancED (formerly the Commission on International and Trans-Regional Accreditation).

Administration and Policy

Organizational Structure and Culture

From a curricular standpoint, our school structure is like any other. For instance, high school Algebra consists of two semesters. The difference is that students can start the course any day of the year, and they all finish at different paces. Also like many schools, our instructional staff is divided into communities, each supervised by an Instructional Leader, who functions very much like an on-site school principal.

Besides being entirely virtual, the biggest difference between FLVS and traditional schools or districts is that we are a choice—and this has major implications for how we operate. As noted, our determination is to remain entrepreneurial and avoid the bureaucratic chokehold that kills innovation. We are also determined to be a real alternative—particularly for underserved populations. In order to meet these goals, we embrace a "buck stops here" mentality regarding student success.

To maintain that way of thinking, buy-in to the FLVS way of doing things begins in the pre-screening and interview process. We look for employees who are willing to go out of their way for others—whether students or fellow colleagues. We also look for teachers and staff members who are excited about their personal and professional growth because in this environment, learning never ends.

For all staff, an underlying commitment to the highest quality customer service is non-negotiable. Since we are optional, we can never forget that students can simply make another choice. Thus, we must prove our worth to students and parents on a daily basis, and this translates to customer service on a scale rarely seen anywhere, much less in public education. Some staff serve internal customers and others serve students or parents directly, but no matter which, we serve as though our existence depends on the customer's good favor—because in the end, it does.

Our "whatever it takes" culture requires constant self-analysis and change. While it is challenging, we also see wonderful opportunities for growth and learning, both as individuals and as an organization. As we have grown, individual jobs and even whole departments have been re-created and reorganized—more than once. Many employees have played several roles during their tenure at FLVS, learning to adapt skills or gain new ones when necessary. In surprisingly short time periods, new systems become old and are replaced. Ironically, change is a constant in a program dedicated to merging best teaching and learning practices with innovative technologies. The goal, though, is never change for its own sake but for the sake of helping kids to learn.

Relationship with Parents, Schools, and Districts in Florida

Because any student in the state may opt to take courses with us, whether from public, private, or home schools, we partner statewide with parents and with local district personnel in a variety of ways. We especially focus on relationships with on-site school counselors, as they are often the first to spot gaps, and they can assist us with appropriate placement. (FLVS counselors work directly with home school parents to guide placement.) Once students are enrolled, local counselors and principals can monitor progress through online FLVS accounts.

Upon course completion, transcripts are sent to the local school where they are added to the student's permanent record. Transcripts for home school students are sent to the parent or guardian.

Though students could fulfill all requirements solely through FLVS, we do not issue a diploma at this time as we were originally designed to supplement and fill gaps. In 2009, though, we added the Florida Virtual School Full Time (FLVS FT) program, which does provide a diploma, but the diploma is still issued through the local district versus FLVS. That program, in fact, is part of several solutions we provide districts to help them meet a recent legislative mandate requiring districts to provide a local, full-time online option. This is just one example of a situation where we saw a challenge that districts were facing and provided a ready-made solution.

The Florida Learning Alliance (FLA), another FLVS partner, played a significant role in connecting us to local rural districts. FLA is a combination of three rural Florida consortia

and FLVS. The purpose of the alliance was to close the digital divide by providing Internet connectivity, hardware, software, one-on-one computing initiatives, and more. Thirty-four of Florida's 67 districts are classified as rural, and the alliance sought to meet their needs.[4]

It was a perfect match. FLA provided the connectivity and computers, while FLVS provided sorely needed curriculum expansion options. FLVS benefitted from the relationships these consortia had with their districts, and the districts benefitted from the resources we provided. No matter what the fiscal climate, it is our responsibility to provide answers to districts on how we help them meet student needs. The consortia help us pinpoint district needs, get the word out about cost-effective solutions, mitigate problems, dispel myths, and share success stories.

Relationship with the Nation and the World

Within a few years of inception, leaders in other states saw the remarkable progress we were making in Florida. At the same time, they recognized the significant dollars and resources Florida allotted to the cause. Rather than reinvent the wheel, they asked to purchase courses and training from us. FLVS was granted legislative approval to provide that option as long as revenues were reinvested into maintaining a state-of-the-art program—and we readily agreed.

As a result, the Florida Virtual Global Services division was launched in 2001. Global Services now offers 100+ courses, along with support, professional training, and consultation. Global Services serves local schools, charters, service centers, districts, and state programs in 44 states. Global Services also operates the Florida Virtual Global School, a tuition-based program that provides direct instruction and is used by states, districts, schools, and individuals around the world.

FLVS uses the same courses and professional learning tools that we sell to other programs. As a public school, we are bound to the same restrictions and mandates that most educators face, so our success sends the message, "You can do this too."

Accountability and Program Evaluation

Since funding is based purely on student success, FLVS must ensure that students meet course standards and that academic integrity is intact. Every aspect of the program is monitored to that end, including course design, instructional strategies, teacher and administrative accountability, reporting, and system transparency. However, success in the world of data-driven management requires two sacred rules: 1) Collect the right data in a timely manner to inform decisions, and 2) Be committed to flexibility and change when needed. An in-depth review about FLVS data collection, evaluation, and management is included in the "Best Practices" section of this chapter.

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[4] FLVS is legislatively mandated to place several categories of students as priority, including rural students, students from low-performing or high-minority schools, and seniors.

Instructors

FLVS now employs almost 1,400 employees throughout the state, with about 6 percent residing outside Florida. Full-time teachers make up 70 percent of our staff, with 13 percent being National Board Certified and about half holding advanced degrees. The other 30 percent of staff is composed of non-instructional support or administrative (22 percent) and adjunct instructors (8 percent). We enjoy a 92 percent retention rate for all staff.

Besides direct instruction, teachers play a variety of roles, including club sponsorship, tutoring, working with colleagues to create resources and share teaching responsibilities, and working with the development team on course content.

Teachers also act as ambassadors by meeting and/or speaking at community groups, visiting legislators, participating in events, and speaking in online venues, on-site special events, and at state or national conferences.

Outcomes and Lessons Learned

School and Student-Related Outcomes

In 2008–2009, FLVS saw more than 150,000 successful completions, representing approximately 72,000 students. In partnership with Florida districts, enrollments are expected to reach 500K within 5–7 years. Demographically, the vast majority of our students (64 percent) attend public schools and use FLVS on an as-needed basis. Twenty-nine percent are home school students, and seven percent are from private schools. The vast majority of students who attend traditional schools take online courses after school hours. FLVS works closely with districts to meet the needs of students who can only access courses via school.

FLVS Completion History

As of August 28, 2009
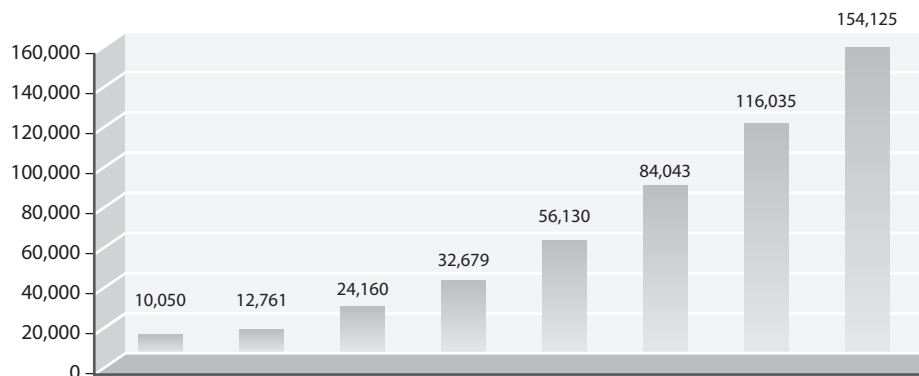
Figure 5-1. FLVS Completion History from 2000–2009

When FLVS first started, we saw students successfully completing at a rate of about 50 percent. At the time, that didn't seem so bad since we weren't even sure students could handle online learning. For long-term sustainability and viability as a program, though, we knew this percentage would have to improve dramatically.

Through improvements in student, teacher, and technical support, our completion rate has risen as high as 85 percent. In 2008–2009, the rate was 80 percent, so while the percentage fluctuates somewhat, we consistently hover between the 80–85 percent mark. Lessons learned about how to help students successfully complete courses are shared in detail in the "Best Practices" section.

Accomplishments

The pioneering efforts of FLVS have forever changed learning opportunities for students. By tackling sacredly held beliefs about local funding and control, about seat time and teacher tenure, and about performance-based learning and management, FLVS has delivered the ultimate challenge to a mindset that says, "It can't be done."

Because of our success, leaders across the country have been emboldened to create similar initiatives. FLVS, in fact, regularly assists clients in 44 states with those efforts through several areas.

Legislative and Policy Leadership

FLVS established standards and historical precedents by lobbying for and obtaining groundbreaking legislation regarding performance-based funding, access rights to online courses for students, annual contracts versus tenured positions for teachers, and hiring and management of a national, remote staff.

Product Leadership

FLVS created an entire suite of middle and high school courses, and continues to break ground today in course development for students and staff. FLVS has also created tools for performance tracking, and has formed innovative partnerships with vendors to develop next-generation online, game-based, and mobile learning tools (details provided in subsequent sections of this chapter).

Hiring and Training Leadership

With a staff of close to 1,400, FLVS has learned a great deal about hiring, induction, professional learning, and leadership development. We pioneered hiring, training, managing, and developing a large staff that is dispersed throughout Florida and the nation—probably a first for a K–12 public school.

Instructional Leadership

Finally, FLVS also pioneered best practices in K–12 online instruction. The well-documented success of our program confirms our leadership in creating instructional

methods that work. FLVS also provides leadership in organizations such as the Southern Regional Education Board, the International Council for K–12 Online Learning, the United States Distance Learning Association (USDLA), and the Software and Information Industry Association. Organizations such as these recognize the ongoing research and development role that we play, and they look to us to provide best practice insights on all aspects of starting and managing a successful K–12 online learning program.

Recognition

While student achievement is always the ultimate measure of our success, recognition by national organizations is another. FLVS has garnered numerous national awards:

- 2010 USDLA Best Practice Award for innovative partnerships with several Florida state universities to train pre-service teachers in online instruction

- 2010 Julie Young, President and CEO, named one of the top 30 leaders nationwide in education technology by *Technology and Learning* magazine

- 2008 CODie award for Best Virtual School

- 2008 Pioneer Institute's Better Government Award, for exemplary and innovative public programs

- 2007 EdNET Pioneer Award, for significant contribution to innovative product and/or program design and implementation for education

- 2000, 2002, 2003, 2005, and 2007 recipient of numerous United States Distance Learning Association Best Practices Awards, including best practices in a variety of areas (teaching, programming, 21st century practices)

- 2006 EdNET Impact Award Finalist, for significant impact on education

- 2003 *BusinessWeek* named FLVS as one of the WebSmart Top 50 organizations

Florida TaxWatch Report

One important independent analysis of FLVS came in a 2007 report compiled by a Florida policy watchdog organization called Florida TaxWatch. TaxWatch is a private, nonprofit, nonpartisan research institute designed to provide citizens and lawmakers with feedback on government revenues, expenditures, taxation, policies, and programs to increase productivity and accountability. CEPA, the Center for Educational Performance and Accountability, a division of TaxWatch, analyzes and makes recommendations specific to educational issues. In November of 2007, CEPA published an extensive report about Florida Virtual School (CEPA, 2007).

The report sought to answer two questions: 1) How does student achievement by FLVS students compare with traditional brick-and-mortar students? and 2) Is instruction via FLVS cost-effective?

The report found that FLVS students consistently outperformed their counterparts in both reading and math. Also, FLVS students earned higher grades in their online courses than they

had earned in courses in the same subject area in the traditional public school setting. Finally, FLVS students consistently outperform their peers on AP exams. The report attributes student success to the "quality of FLVS teachers as well as the school's instructional approach." The report noted FLVS policy requiring all teachers to be credentialed within the area they are teaching. It also noted a high percentage of teachers with advanced degrees (64 percent at the time) and a strong showing of National Board Certified teachers (76). Finally, the report commended FLVS for delivering higher quality at a lower per-pupil cost than traditional schools. See Table 5-1 and Figures 5-2 and 5-3 for data related to these outcomes.

Grade Earned in Subject Area with Enrollment Pattern of Traditional Public High School (2005) to FLVS (2006)	Traditional Public School	FLVS
A	39%	55%
B	28%	27%
C	17%	12%
D	8%	3%
F	8%	3%

Table 5-1. FLVS vs. Traditional Schools in Grades Earned (CEPA, 2007)

FCAT Reading Scores for FLVS and for All Public School Students

Percent Scoring 3 and Above ("Passing" Score Range)
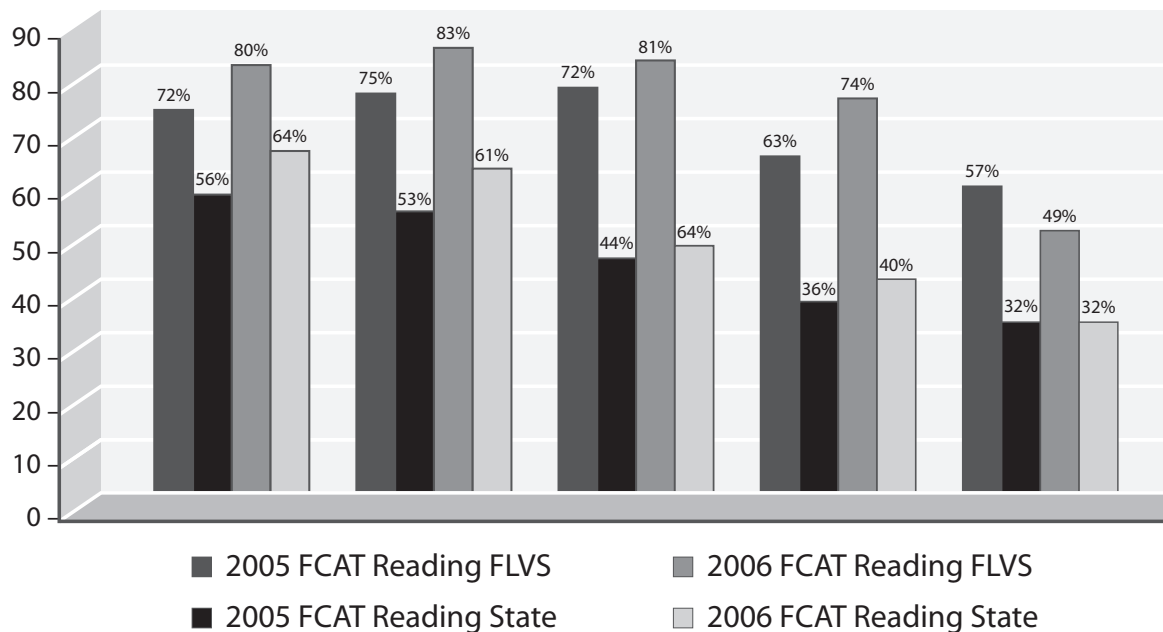
Figure 5-2. FCAT Reading Score Comparisons (CEPA, 2007)

FCAT Math Scores for FLVS and for All Public School Students

Percent Scoring 3 and Above ("Passing" Score Range)

Legend:
- 2005 FCAT Math FLVS
- 2005 FCAT Math State
- 2006 FCAT Math FLVS
- 2006 FCAT Math State
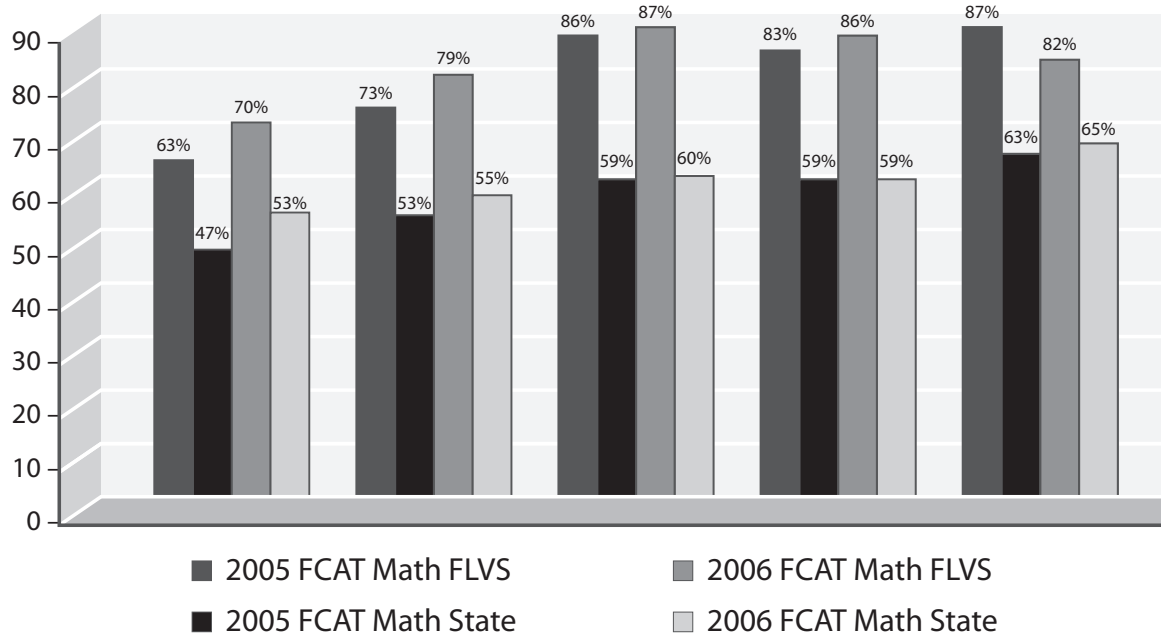
Figure 5-3. FCAT Math Score Comparisons (CEPA, 2007)

Best Practices

School-Based Best Practices

The Role of Time and Pace

We realized early that one of the biggest benefits to online learning was the ability to individualize pace. Any classroom teacher who has had to find a balance between pushing struggling students through a course while holding back gifted students from going too fast can appreciate that value of pace options. Students can choose a "traditional" pace, where a semester or one-year course lasts approximately 18 and 36 weeks respectively. Or students may opt to complete the course at an accelerated or decelerated pace.

Teachers help students complete a "pace chart" that guides students through the assignments they should complete weekly to remain on their chosen pace target. It also provides estimates on how long each assignment should take so students can gauge their own progress. Since it is a guide, exceptions to pacing are allowed, but part of what students are learning is the art of managing time, expectations, and distractions as they strive for a goal. They are also learning to communicate progress and setbacks to teachers in much the same way adults must negotiate deadlines and report to superiors. The idea is to give students freedom while teaching the responsibility that comes with it.

Student Support: Monitoring Progress

Web-based tools allow teachers to track student pace and guide students through trouble spots. Teachers particularly monitor for lessons that are problematic in order to proactively provide resources and instruction, or to gather evidence and ideas for future development. Teachers may also schedule tutoring sessions as needed, either one-on-one or through peer tutoring options. They might also create resources, such as a video or podcast. The teacher's role is to proactively monitor progress and reach out to students who are falling behind or struggling—rather than simply waiting on students to call. Teachers are responsible for using their professional insight to know when and how to intervene with direct instruction, additional resources, peer tutoring, or other supports.

Teachers can also monitor how long a student is working online and how often the student is submitting material. With ongoing student interactions and assessment of student work, teachers have a well-rounded body of information to help them make good instructional decisions.

Student Support: Communication and Personalization

Teachers conduct monthly progress conferences via telephone with parents or guardians and their student every month. Teachers are also, naturally, in contact with students throughout the month, but the monthly calls are instrumental to building relationships and making parents part of the learning community.

The manner of communication is as critical as the frequency. When providing feedback to students, a positive, encouraging tone is the expectation, along with specific directions that enable students to take a second shot at an assignment to improve their work. As a result, students and parents tell us something remarkable. In our 2008–2009 annual survey of students, 98 percent reported that their teacher took a personal interest in their success as students (Optimal Performance, 2009). We've been pleased to see a consistent and positive response to this critical question. When teachers make a point of treating each student individually and provide positive, specific feedback, students are more likely to succeed.

Teachers are also required to maintain an "announcement page," both as a daily communication tool and a vehicle for building relationships. Besides announcements and contact information, teachers often post pictures of themselves and their families, pets, favorite places, links to favorite sites or blogs, and short personal updates, such as vacation notes. These pages often spark impromptu conversations and, when combined with the daily teaching-learning process, provide another tool for building relationships. Students often remark that they know their online teacher better than their classroom teacher, which is likely a factor in their perception that the online instructor is strongly committed to their success.

Other Teaching and Learning Support

In addition to tutoring support, we provide resources for students and teachers, such as reading coaches, a literacy team, and an array of online services like Turnitin.com, a plagiarism detection tool—available to teachers and students alike.

Instructional teams work together to share resources, provide instructional support on evenings and weekends, and relieve one another, as needed, for professional learning or vacations. Teaming also provides opportunities for teachers to teach from their strengths.

Finally, FLVS partners with on-site personnel in schools statewide. Some schools actually run labs where students can use a class period (or more) to take any variety of online courses as needed. Labs are a great solution in local schools for dilemmas such as the transfer student with credit gaps, the student who wants or needs additional courses, and the student with schedule conflicts. Lack of access to graduation requirements is another reason labs have been popular. Smaller, rural schools sometimes offer certain courses only on alternate years, which creates a real dilemma at times for seniors. Labs provide a way for those students to meet requirements.

Likewise, labs have been used when local teachers are in short supply. In several cases, a school lost a teacher midstream for various reasons, and the labs provided a way for students to continue classes uninterrupted. Though on-site lab facilitators are district employees, we work with them to provide assistance as needed.

Data-Driven Decision Making: Management by the Numbers

To be an adaptable, dynamic organization, we knew that we could not rely on the kind of data feedback loops typical in most school systems. For instance, the Florida Comprehensive Assessment Test (FCAT) is administered in early spring, usually in March. Results start to come back mid-May, with final scores arriving at the end of May or in early June. While problems might be identified, solutions will wait until next year to be addressed. Next year's changes provided no benefit to the students who just failed in the current year.

We wanted to reverse that process. What if we could collect and use data on a daily, dynamic basis versus an annual, static basis? What if we could spot trends in areas where students struggle and fix them immediately? What if we could identify problems, provide corrective feedback, and let students attempt assignments again—rather than penalize them for what they didn't get on the first try? What if we could pinpoint problems in the curriculum—right down to a single lesson—and then immediately rewrite that lesson or find new ways to support students through it? What if we could spot individual strengths and weaknesses in our teaching staff and pair teachers or provide mentoring targeted to the most pressing needs? What if we were pliant enough to drop or modify methods or programs that don't work, making changes quickly, versus over a year or two—or more? Could we stem the tide of students who are lost in the cracks while the school is forever stuck in a reactive versus proactive mode?

In a performance-based environment, we can afford to do no less. Since we are not paid unless students are successful, if we wait until next year to fix our problems, we will soon go out of business. As a result, FLVS crafted a suite of tools that allows us to always answer the question: "Is this working?" Once we know the answer, our staff is empowered make changes as needed.

Gathering the Right Data

At the most basic level, we must ask three questions to assess our effectiveness. 1) How are students doing? 2) How are teachers doing? 3) How is the courseware working? To answer these questions, we developed tools to gather and report dynamic data. Virtual School

Administrator (VSA) is one tool we developed to help teachers and administrators manage the entire instructional process—from enrollment to final transcript. A proprietary student management system, VSA is an elaborate tracking and performance management tool.

For instance, in order to know how students are doing, we need daily snapshots. With VSA, teachers can monitor every student's pace, a significant feat considering the fact that students are all over the map, pace-wise, through the course. At a glance, teachers know which students are behind, when each student started, when each was last contacted, which are due for a call, what percentage of the course each has completed, or what transpired during the last contact. Grades are accessible by current date or by percentage of overall course progress, and all student work is accessible.

Administrators can likewise monitor all of the above and more, tracking performance trends. For instance, an administrator may find that Teacher A successfully completed her required 120 students and even topped that goal by 10 students. Drilling further, it is clear that this teacher provides positive and thorough feedback on student assignments and consistently reaches out to students. Teacher B, on the other hand, lags in completing students. On further investigation, we see that this teacher is cutting corners on feedback, and the call log shows huge gaps in required minimum phone contact.

Further inquiries may reveal mitigating factors with Teacher B, such as an illness or a family situation. No matter what the case, support and interventions can be implemented once the problem is defined. The idea is not to be "big brother" but "big supporter." Certainly, further investigation could also reveal an incompetent instructor. In a performance-based environment, management must go above and beyond to support instructional staff, assisting in their professional growth at every turn, but it is also management's responsibility to remove teachers who are not personally committed to their own growth or that of their students.

Timely and accurate data also allows developers to focus on trouble spots. Challenges sometimes arise because a given lesson's directions are confusing or extra resources are lacking. Sometimes it's simply a matter of difficult content that students typically struggle with—no matter how well the lesson is designed. Whatever the case, when problems are identified, solutions can begin.

Annual Surveys

Another important source of information as to our performance comes directly from the people we serve. FLVS contracts with an independent firm to produce annual evaluation surveys. The survey goes to parents and students, as well as local school personnel and district supervisors, thus providing formal feedback from all of our "customers." The surveys measure results on several goals and provide feedback on how well we are engaging students and meeting needs.

We use a cross-organizational, team-based approach to study the results and look for ways to implement needed changes. In addition, we engage small groups of students, parents, and school personnel in follow-up conversations to guide our decisions. (Data from these surveys are included throughout this chapter. View them online at *http://www.flvs.net/areas/aboutus/Pages/AnnualEvaluations.aspx*)

Teacher-Based Best Practices

Hiring and Induction

We often say that besides teaching, hiring is the most important thing we do. Hiring efficiently is so important, in fact, that we would rather leave a position empty than make a poor, hasty decision. Because our organization is so committed to being customer-centric, entrepreneurial, fast paced, achievement oriented, and adaptable, it is critical that those who come on board are very comfortable with those commitments. Most important, a firm dedication to serving students is paramount.

> *"FLVS has been an incredibly positive experience. The teachers excel in their subject area, show personal interest in the students and have high expectations for academic achievement. Noteworthy is their ability to instill confidence through encouragement and reassurance."*
>
> — Carol Blomquist-Mikulka, FLVS Parent

Induction begins at the recruitment phase and continues in the interview by probing for issues that get to the heart of our culture. Once hired, new employees are immediately placed in an online welcome course that prepares them for the face-to-face, phase one training. New hires come to Orlando for five days, where they learn about basic operational procedures, instructional tools, and they work with trainers and content mentors in hands-on applications and instructional scenarios.

Students are assigned to new teachers even while teachers are in this initial training. This allows new teachers to begin the welcome calls, initiating students into the course, with trainers and mentors working directly with them and providing immediate feedback.

We also provide a digital "binder" during initial training, which includes a record of all the materials and tools we cover so teachers can access them later as needed. The digital binder includes practical demonstrations on using the LMS, student management system, or even tools like Excel, PowerPoint, Jing, and more. It also includes a copy of their course and a guide that profiles course highlights and resources.

During phase one, teachers are also paired with content mentors who assist them throughout the three phases of induction training. Between each phase, trainers also conduct cohort phone calls, with each call following a specific agenda related to tasks or issues that teachers typically face. Calls are weekly during the first phase. Phase two begins at about the 45-day mark, and teachers return to Orlando for two days. At about the 75-day mark, they return again for one day. We have found it most effective to blend face-to-face with mentoring, digital materials, and phone/Web conferences to provide multiple layers of support.

Teaching online for the first time is not unlike the first year of classroom teaching all over again—with all the awkwardness and uncertainty implied

therein. Our goal is to support the new online instructors emotionally, mentally, and professionally so they can lead with confidence.

Mentoring and Modeling

Mentoring has been part of FLVS for many years and has taken many forms, but no matter what form, we believe it is a key factor in preparing and supporting teachers. We typically match teachers with mentors in the same subject area, but mentors also model general behaviors we want to see, such as responsiveness, positive and caring tone, calm demeanor, teamwork, and an ability to work through conflicts. Whenever teachers face a new challenge—and they face them regularly at first—the mentor is there to guide and support, which is a great stress relief to sometimes-overwhelmed new online instructors.

Mentors also help to ensure that our culture is upheld and may even play a role in helping instructors decide if the online environment is really right for them.

Ultimately, students benefit when teachers are supported and ready to focus on student needs.

Professional Learning

Development of an exceptional staff does not happen by chance. In traditional classrooms, teachers rarely have the opportunity to learn from one another, to compare their strengths and weaknesses directly, and to team accordingly. We decided to capitalize on the remarkable transparency and collaborative advantages of online learning—along with the same flexibility of time and pace that we offer students.

As in new hire training, we use a variety of channels for professional learning, including face-to-face, online, phone and Web conferences, peer coaching and tutoring, apprenticeships, and book clubs. Every employee creates, tracks, and reflects on individual learning goals that contribute to the organization's overall goals.

BITES is a just-in-time tool that provides a whole menu of short, Web-based sessions—live and recorded—on a wide variety of topics, including Managing Monthly Calls, Monitoring Student Progress, Effective Communication, Using the Discussion Area, Using Jing, Creating Videos, Excel, Creating Fun Feedback, Effective Conference Calls, and much more.

Two peer coaching programs are also available, one focusing on literacy and another that allows staff members to work together on whatever areas they choose. This purely peer-to-peer program involves no supervisors so staff can work freely and comfortably with one another. Training in the peer coaching process is provided.

Another program provides training in various aspects of management and leadership development. Practical training on topics such as delegation, coaching, performance evaluations, or conflict resolution are provided both online and in quarterly face-to-face meetings. A similar program is designed to build the next generation of senior leaders. It includes a hand-selected group that is presented with identified organizational challenges and then given the leeway and authority to craft solutions.

The idea is to provide an apprenticeship that allows participants to deal with enterprise-wide dilemmas so that the organization can build leadership depth and breadth. A similar apprenticeship program does the same to develop instructional leaders.

Finally, we have professional learning communities where teams of teachers conduct action research on various teaching strategies to evaluate what works and what does not. They are charged with creating solutions when gaps are found or instructional strategies need to be modified.

Instructional Support and Supervision

Since all teachers at FLVS use the same curriculum, it is much easier to make direct comparisons between one teacher's success and another. While this might seem intimidating, when used effectively it provides a way to identify varying strengths in staff members so that they can learn to lean upon one another more effectively.

The online environment also makes it easier to observe a fellow teacher's class, which is a big component of peer coaching. While the transparent nature of online learning lends itself to sharing ideas and observing one another's teaching skills, it can be overwhelming or even threatening to some. To mitigate fears, we try to strike a balance between our commitments to excellence with equal commitments to extraordinary professional support.

The teaching staff is divided into smaller teams to provide optimum interaction between instructional leaders (principals) and the teachers they support and supervise. Smaller teams create more opportunities for relationships to develop and for leaders to model behaviors. The teaching staff is divided into "school houses," arranged mostly by subject area with about 50–55 teachers in each.

Good supervision and performance evaluations require us to actively implement proven practices, and that, again, requires careful observation and data gathering. Without measuring our performance, we could not know how to answer questions like, "Can we adjust this team's job responsibilities in order to better utilize each individual's strengths?" or "How have this team's efforts paid off in terms of student achievement?"

We also provide financial incentives for exceptional performance. Teachers may earn extra dollars for each student they successfully complete over a required minimum for the year (varies by course, but the average is about 120). Only students who complete coursework with a passing score are included in the teacher's final count. This incentive program provides teachers with another impetus to proactively personalize their strategies to the needs of each student. Instructional leaders use multiple accountability metrics and supervisory measurements to ensure quality, adherence to standards, and academic integrity.

Student-Based Best Practices

Student Induction

Student support, like so many other aspects of our program, is constantly growing and evolving from formal and informal feedback. Currently, as students begin their FLVS course, they access several self-guided presentations, which range from professional Web-based presentations to simple narrated slide presentations and how to access their courses, find resources, and get started.

> *"I just want to thank you for the extra help that you have given me. I feel that you are very interested in my doing well in your class."*
>
> — Monica Cummings, FLVS student

Every student receives a "welcome call," with a parent or guardian required to be present on the call. The welcome call provides an opportunity for parents and students to ask questions, and teachers use a checklist to ensure they are giving all students the same review of policies and procedures. Open houses are also conducted virtually, through Web conferencing software, providing yet another opportunity for synchronous interaction between students, teachers, and parents. The welcome call and virtual open houses help students set realistic expectations and understand the commitment required on their part, thereby negating notions about the online learning being an "easy out." Once students are well acclimated, they are much more likely to complete courses successfully.

We also provide annual face-to-face open houses in partnership with Barnes & Noble bookstores. Barnes & Noble hosts the event in stores throughout Florida— all simultaneous, usually in the spring. The bookstore provides a table with books related to FLVS courses, particularly literature classes, and we have offered school-wide book discussions in conjunction with this event.[5] Parents enjoy a discount on purchases that day, and a portion of the proceeds goes to the FLVS Foundation. The Barnes & Noble open houses are another strong partnership with a win-win for all.

Tutoring

Besides the ongoing instructional support students receive from their teachers, numerous tutoring options are available. The National English Honors Society, one of our online clubs, provides tutoring for all middle and high school English courses. Tutors are available six days per week, and they keep regular "office hours," posted on teacher announcement pages.

Another group of student tutors, headed and coordinated by instructors, provides ongoing assistance in all core academic areas and in Web design. Students are recommended by instructors to become peer tutors, and they receive ongoing

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[5] All reading materials that are not directly written into the course content are also readily available in public libraries. Usually, this involves classic literary works.

training. Instructional teams provide support and oversight to the actual tutoring sessions, which are all conducted through Web conferencing.

The students are quite proactive as tutors, often creating supplemental materials, using video, screen captures, slides, and documents as resources for students who come for help. They create "help files" for topics that seem to crop up regularly as challenge spots, and they continually note the places where students are seeking help so that they can add to their digital resources.

We have several paid tutors to cover languages and some of the upper-level math courses. Paid tutors also provide assistance and support to the student tutors, and experienced peer tutors assist with the training of new tutors. Tutors and their teacher coordinators use Google Docs to share resources and post scheduling availability. Tutors meet twice weekly for training and to review the help slides they create. Students who come for help are asked for feedback on how the tutoring helped, and, if they have used the services before, whether or not it is making a difference in their overall learning and achievement.

As of spring 2010, we hosted over 30,000 individual tutoring sessions. Preliminary tracking is showing a significant increase in completion rates if students attend tutoring within their first month at FLVS. Feedback so far has been very positive with about 84 percent of students responding positively that the program is helping them improve their performance and/or grade.

Student Clubs and Events

We have made great strides in increasing the number of ways that students can interact in addition to the virtual classroom. FLVS now offers ten clubs.

- Peer Tutors—This club is described above.

- Student Ambassadors—Students are trained to share the FLVS story via formal and informal presentations and other activities. They also demonstrate many aspects of online learning for other students and serve as moderators and hosts for special online or face-to-face events.

- Model United Nations (UN)—Students "adopt" and become thoroughly versed in a given country, which they represent at a Model UN conference (state and/or national).

- Latin—Latin I, II, and III students participate in state and national Latin forums.

- National English Honor Society—NEHS hosts the annual African-American Read In, as well as numerous book discussions throughout the year, and they provide peer tutoring for English courses at FLVS.

- Science—This club hosts the FLVS Science Olympiad and participates in statewide competitions.

- History—These students host the annual "history fair."

- International—Students from at least 30 cultures host an annual International Fair.

- Newspaper—Members of this club write and produce the FLVS student newspaper, *News in a Click*.

- Future Business Leaders of America—FBLA members attend regional, state, and national leadership conferences with students across the state and country.

In addition, counselors and staff members host a "College Hub" which provides assistance for students during the college search and application process. Webinars on how to prepare for the SAT/ACT tests are also available, and a weekly Question & Answer session is offered.

Finally, about once each month, we host special events. These are largely led by students and include the Shakespeare Festival, Literacy Fair, Hispanic Heritage Festival, Earth Day, Chinese New Year, and Human Rights Day. We also recently hosted a career day in partnership with the Florida Department of Education that focused on science, technology, engineering, and math-related careers.

We are currently working on our first annual virtual conference for students. It will utilize a software program that provides a virtual world where students can visit an "exhibit hall," attend keynote and breakout sessions, and even mill around a "lobby" to visit with friends. Students will get a "virtual briefcase" where they can collect conference materials and downloads, and each student can create their own conference blog for taking notes and sharing ideas.

Content-Based Best Practices

Today, there are many options for purchasing online courseware and even complete online learning programs, but that was not the case when we launched. Over the years, we've been able to build an exceptional development team and produce a full suite of middle, high school and, recently, even elementary courses. Florida poured its resources into FLVS versus multiple district programs, and the result is an expert team, well equipped to move the state into the next generation of online, blended, and mobile learning.

All of our 100+ courses are built from state and national standards and meet graduation requirements. Courses at FLVS are not watered down versions of their brick-and-mortar counterparts. Eighty-nine percent of students report that their FLVS courses are as difficult as or more difficult than their on-site courses. At the same time, since FLVS serves all comers, we vary instructional strategies to meet individual student needs, and this, of course, is the beauty of online learning. So, while students are challenged, they are also provided new levels of support and flexibility.

Course Development at FLVS

Since we had to develop courses in the beginning, the legislature generously supported that process, allowing us to eventually create 100+ courses, including 13 Advanced Placement courses.

FLVS uses several research-based learning theories and design models. Pedagogical frameworks include Gardner's theories on multiple intelligences, Gagne's "conditions of learning," Quantum Learning, 21st Century Skills, Schlechty's *Working on the Work*, Wiggins and McTighe's *Understanding by Design*, and the *Prisoners of Time* report from The National Education Commission on Time and Learning. The challenge is to create engaging content that provides students a new level of ownership through the variety of choices they enjoy.

Courses are refreshed and redeveloped on a three-year cycle, using student and teacher feedback to pinpoint areas for improvement. The development team targets courses for redevelopment where students seem to be stumbling, when there is a change in state standards, or to meet the needs of other stakeholders. In addition to full redevelopment projects, teacher teams participate in curriculum improvement by identifying and providing evidence of problem areas and then working directly with developers, using a design framework, to modify or re-create lessons. This approach, used for about 15 courses annually, has been a huge morale booster and team builder, allowing teachers to play an active role in keeping courses fresh, while also serving to build relationships and share expertise with developers and instructors. It also allows teachers to grow as instructional designers. Student work that is designed and created through these sessions is tested with students, refined, and implemented in the courses.

The development team is also continually updating lessons or pieces of lessons in a variety of ways to add clarity, provide choices, keep assessments fresh, and improve the learning experience. The development cycle ensures that content remains fresh, clear, and engaging.

We are experimenting with Blackboard's adaptive release to automate prescriptive learning. All learning objects will be tagged so that once students complete a prescriptive exam and learning profile, assignments can be automatically packaged based on the results. Our current prescriptive learning model is manual, with teachers using course or module pre-test results to hand pick assignments for students. The move toward automated prescriptive learning will be a game changer for development and, like most other things related to online learning, will likely evolve.

Good online pedagogy depends partly on the instructor's ability to utilize the online content and then take students beyond it, so professional learning has to focus partly on equipping teachers to this challenge. As a result, teachers are working with curriculum specialists to provide ongoing resources for students.

FLVS also uses Web 2.0 tools and other technologies that are already familiar to students, such as gaming or cell phones. In 2008 and 2009, we moved squarely into game-based and mobile learning. Two game-based courses were launched—American History and Intensive Reading. Both courses are completely enveloped within the context of a game called *Conspiracy Code*. Each action required by the student is part of the storyline of the game—including discussions with teachers. Students adopt the persona of game characters to solve the mystery. Pedagogically, the games are constructivist in that students are piecing together the learning, making their own connections as they solve the game's mystery.

Three mobile applications (apps) have been released that allow students to use cell phones to interact with content. For example, a language app allows students to hear and practice pronunciation, practice vocabulary, and review quiz work. An Algebra app allows students to work on practice problems and compare their results with those of other students. FLVS expects to move further into this realm, which will likely result in more materials that can be used for students in online, blended, and traditional classrooms.

Best Technology Practices

As noted, the administrative and policy structure of FLVS is built around the idea of remaining flexible enough to adapt to student needs. With technology continuing to develop at dizzying rates, we cannot afford to be stagnant. While a commitment to technological growth is always challenging, a firm focus on student achievement as your ultimate measure of success prevents your program from becoming derailed.

Learning Management Systems

Perhaps the most important thing to remember about a learning management system (LMS) is that it should serve the learning. If you are spending the majority of your time figuring out how to use the tool versus actually teaching and learning, you have a problem.

The key in selecting an LMS is to first consider the learning strategies that your organization wants to implement, and then be sure the company can keep up as your strategies change. Technology changes rapidly, as do learning strategies, and your LMS must be able to scale with those changes.

Bandwidth capabilities and growth rates are also factors. You need systems that quickly adapt to new developments and integrate new technologies seamlessly into courses, such as gaming, simulations, and Web 2.0 technologies.

It is also important to consider whether the system can handle school structural changes. For instance, when we placed teachers into smaller communities, our previous LMS could not accommodate that structure, which proved to be a challenge.

Usability and scalability are critical, but sometimes scalability is limited to discussions about numbers. Philosophical and organizational growth must also be considered. One solution is to go with a tool that provides components that can be easily added or subtracted, with specific roles assigned to specific people as appropriate.

At the beginning, you may not even know if the vendor you picked can keep up with you, so you have to re-evaluate as you go along. As you define the core strategies and values of your program, you become better equipped to find the tool that best fits your needs.

Student Management System

Student Management Systems are traditionally designed to handle enrollments and manage records. Many virtual programs launch by using a spreadsheet or homegrown

database to manage enrollments and records, as did FLVS. By the time FLVS reached 500 to 1,000 enrollments, however, we needed something better. We designed our own system because at the time other systems were geared for traditional brick-and-mortar schools on fixed calendars. We still use our own system, but virtual schools starting today certainly have options to purchase that we did not.

Technical Support and Help Desk

We also began by providing our own technical support, which is now contracted. All first-tier support is outsourced for first-level help. Help tickets are submitted and tracked. The vendor escalates tickets to a second tier of internal support staff if the issue is beyond the vendor's services—such as replacing a teacher's laptop. Tickets are addressed within 24 hours, with the goal being to solve problems within 24–48 hours. Survey feedback shows most problems are resolved within that time frame.

Business Systems

It's easy to forget this category, but this is probably one of the most critical when you consider the networking, software, and Web-based solutions necessary to run a virtual school. Teachers need computers, cell phones, printers, and faxes. Operations require servers, bandwidth, and security systems to manage courses, e-mail, Web-based tools, and human resource systems, such as finance, payroll, scheduling, and billing to name just a few. You may start with systems already in place, perhaps within a local district, or you can make do with homemade systems, but online learning is known for rapid growth, so you'll eventually have to consider how all of your systems will eventually be purchased, integrated, and managed.

Future Plans

Administrative goals

As FLVS looks to the future, we see continued growth in numbers, course development, and outreach. As noted earlier, in partnership with local districts, we expect enrollments to climb to 500K by 2015. Although we are accustomed to growth, it is never easy. Equally challenging is the need to ensure that new developments maintain that single-minded focus on student achievement. We will need dynamic leaders to carry us into the next generation of online, hybrid, mobile, and game-based learning.

For that reason, we are growing the apprentice training model noted earlier whereby teacher leaders, instructional leaders, managers, and senior leaders will have increasing opportunities to tackle real and simulated issues, with mentoring and coaching from the existing leadership teams and from outside sources. We are excited about the leaders we see emerging to guide the next generation at Florida Virtual School.

Equally important, we recognize the need to grow the leadership we provide to the industry as a whole. While we've provided guidance and input at the national level for some time now, we see that role increasing. Online learning has made tremendous strides, but policy

and funding frameworks have not kept pace. Part of our role will be to provide insights and models, both from the FLVS experience and from the experience of the dozens of programs we work with, to guide policy and funding developments nationwide.

We see great potential in the online learning story for education reform as a whole. Online learning has been a catalyst for so much reform already in a relatively short time period, and we have a great opportunity to use that progress as a model for larger reform initiatives.

Teaching and Learning

For almost a decade, we have offered our courses, training, and expertise to educators everywhere through our franchise program and, nationally, through our Global Service division. Our Professional Learning department is now gearing up to export training services so that the proven best practices we have implemented can be more readily available to others.

The ability to share our professional learning offerings will be especially important as we offer more hybrid learning products and services. In 2010, we launched our first elementary course, a physical education course designed for use in a hybrid fashion in brick-and-mortar schools. As teachers gain experience using online learning, and as they gain access to training in other online, mobile, and Web-based tools, they begin to see new ways of teaching, new ways of presenting material to students, and new ways of engaging students interactively. We see this as part of an exciting opportunity to shape the next generation of teachers.

Another part of shaping the next generation is our partnership with universities to develop pre-service training and to provide the actual internship opportunities. We have already been doing this for a couple of years now, and we expect this important program to grow substantially.

Technologically speaking, there are many new developments and partnerships in the works to bring online, mobile, game-based, and hybrid learning to a whole new level.

We are experimenting with a wide variety of technological enhancements.

- A project with a multinational company, our LMS provider (Blackboard), and our Web conferencing provider (Elluminate) was designed to explore delivery of online learning during a disaster. In the pilot, we trained teachers and students at a rural school and then simulated a disaster situation whereby students and teachers had to work remotely from one another. The pilot went well and provided important feedback for future trials.

- In another project, we worked with Grockit, Inc. on a social learning product where students enter a gaming environment in order to meet with other students in a study session and earn points for helping each other and for correct answers.

- We worked with gWhiz to create study products for iPhone, Android, iPad, and Blackberry. We created a mobile Algebra product, part of a "meStudying" series. The study questions and exercises are tied to FLVS courses, so students can search and view questions by module or, if they are not FLVS students, they can just search by

topic. We are now developing an app that is about reading for college success. We also deployed a "flash card" app to help students with foreign language vocabulary.

- Working with the Academic ADL Co-Lab, we developed another app called Revu4u, designed as a self-quizzing tool with a leaderboard so students gain points both for right answers and for speed. We've released our first set of questions for AP Microeconomics, as well as for algebra readiness.

- We are deploying text-to-speech technology with a firm called TextHelp. Essentially, this tool converts HTML text into speech, providing reading support and allowing students to follow along as words are highlighted during reading.

- We are working on our first 3D product with Digitec Interactive, using a process called ChromaDepth®. We built a 3D frog dissection where students actually wear goggles that allow them to see everything inside the frog's body cavity in layers. We are looking into other ways this technology can enhance learning.

- Our first "augmented reality" piece was created with a company called MindComet Corporation. Augmented reality allows users to manipulate something in the physical world and see a response on the computer. For instance, the students may wear goggles that allow them to interact with a physical object through images they are seeing and information they are being fed through the goggles. Students may move and manipulate what they see through voice commands, or they may move a flat image in their hands but see corresponding 3D viewpoints online.

- Along the same lines, we are looking into digital holograms and gesture-based computing, where the end user can manipulate what is happening online simply through movements. Among many others, physical fitness is one obvious application of this kind of technology.

- A partnership with MindComet uses a technology called Hyprix to produce interactive, clickable videos. Hotspots are embedded throughout a video that students click on to learn more. A Spanish class video, for instance, might depict a character holding a coffee cup. Students can click on the cup to figure out how to say that word in Spanish, which is exactly the type of thing we created for our Spanish III class. We are looking for applications of this tool for math and science.

- We worked with the University of Central Florida's Institute for Simulation and Training to deliver a mobile game called "My Sports Pulse." About 500 students were sent math and science-related questions with sports themes via SMS/text messaging. Students could text their answers and earn points and prizes and could play online or via cell phone. About 60 percent chose to work exclusively through cell phones.

In addition to the above, we will eventually deliver entire courses or segments of study via mobile technology versus only supplementary content. We will continue to develop game-based content, as well as both full courses and supplementary.

All of these developments are ultimately about learning. We are continually looking for ways to give students choices in how to approach the material they need to process and master. So, whether a student uses 3D technology or not, the idea is to present the same concept in a variety of formats so if one avenue simply fails to help the student grasp the material, another will. Developing educational technology tools is ultimately providing new avenues to learning.

Student Success

Learning objects are already a reality, and the learning management systems that can assemble them automatically based on pre-assessments are also now available. Now it's time to merge the two and begin a discussion on the larger impact to education. While online learning itself brought personalized learning to a whole new level, this kind of automated prescriptive customization is a quantum leap forward.

The ability to customize lessons, modules, or entire units of study to the needs of individual students brings mind-boggling new possibilities to the fore. Many challenges must be overcome before we routinely customize content for students—whether virtual or not. For example, we may have to rethink the concept of courses and standards altogether, moving from separation of one content area from another to something much more cross-curricular. In the future, credits or points may be earned for mastery of individual standards, with each student working on a customized set of standards, depending on their learning and career goals. Standards may be mastered across wide content areas. Students may end up mastering certain math standards, for instance, in a history class—or history standards in a literary module on eighteenth-century novels. While much will need to change in our education system to allow students to earn credits or points toward a diploma like this, we are actually already at the point where a course of study can be delivered in this manner. We are excited to see what this level of personalization can do for student achievement.

Conclusion

Florida Virtual School employees are passionate about the promises that online and emerging learning technologies afford. We know that the support we received in Florida is not necessarily the norm. We were appropriately funded to do the research; we were given the liberty to learn, to make mistakes, and to adjust. As a result, we sense a great responsibility to advance quality online learning for all students.

Our teachers are powerfully motivated when they see the benefits online learning provides kids. Every teacher, online or not, loves to see kids fully engaged in the joy of learning, but too often, students become disengaged because they can't grasp a concept at the same pace as their peers—or they are bored with having to wait for other students to catch up with them. Our teachers find genuine joy in working with young people who perhaps for the first time in their lives feel "normal" and believe that they really can achieve, given the right flexibility in time and in learning choices. It is likewise joyful to work with advanced students who are ready and eager to move ahead. There's room in online learning for students at every pace in the spectrum.

"Teaching to the middle" is no longer the only option. Quality online learning is a remarkable example of democracy in learning because it promises opportunities to all students, regardless of geography, socio-economic status, intelligence, or learning style. We are honored to have played a role in bringing such opportunities to kids.

Links

Florida Virtual School, *http://www.flvs.net*

Southern Regional Education Board, *http://www.sreb.org*

International Association for K-12 Online Learning, *http://www.inacol.org*

United States Distance Learning Association, *http://www.usdla.org*

Georgia Virtual School

Christina Clayton, Ed. D., Director of Virtual Education

Georgia Virtual School is a program of the Georgia Department of Education's Office of Technology Services. The program is fully accredited and operates in partnership with Georgia school districts and parents to offer high school and middle school-level courses across the state.

The mission of Georgia Virtual School is to improve student achievement by redefining delivery and accessibility of rigorous, standards-based online instruction.

http://www.gavirtualschool.org/

Historical Perspective and General Overview

On May 4, 2005, Governor Sonny Perdue signed the Georgia Virtual School (GAVS) bill, O.C.G.A. 20-2-31 (*http://www.doe.k12.ga.us/_documents/doe/legalservices/160-8-1-.01.pdf*), into law establishing the first official state virtual school for Georgia. Before the Georgia Virtual School bill was established, the Georgia State Board of Education approved a Virtual Learning Business Plan in August 2001 (later known as Georgia eLearning). This plan endorsed the provision of online Advanced Placement (AP) and core curricular courses to students in Georgia's high schools.

> *"Thank you GaVS for providing an opportunity for my child who had lost his path when it came to traditional classroom learning. He is on-track and will graduate this spring!"*

At the time, Georgia was in the second year of a three-year federal U.S. Department of Education Advanced Placement Test Fee Program grant targeted toward increasing the number of low-income and other disadvantaged students who take AP courses and exams. The grant, titled *AP Nexus*, written as a collaborative effort between Georgia, South Carolina, and Tennessee, was aimed at increasing the availability of AP courses to the target population by means of *online* opportunities through a contract with Apex Learning, the largest provider of online AP courses at that time. Georgia public high schools, with a 50 percent or greater free and reduced lunch rate, qualified for the program. As word of the *AP Nexus* program spread, more schools contacted the Georgia Department of Education (GaDOE) to participate and expressed the need for core courses in addition to AP courses. However, most of the schools that inquired did not qualify to participate in the grant. This unforeseen demand prompted the GaDOE to begin expanding its online program through additional contracts with vendors.

A significant change in the Georgia eLearning program occurred in the spring semester of 2003 when several Georgia teachers began teaching separate sections of courses provided by three of the online learning vendors. These sections were set aside specifically for students throughout Georgia who were participating in the Georgia eLearning program. By leasing the course content and using its own Georgia teachers, the state could ensure that the Georgia Quality Core Curriculum standards (QCCs) were being met. In addition, they could modify courses and offer courses in both traditional and block scheduling formats (where students take an entire course in one semester, much like college courses). Georgia found this approach lowered the total costs of delivering the course in the long run because it reduced the amount of outside course customization needed to meet Georgia's curriculum standards. This change would impact the working approach to instructional design (teaching and content development) of the future GAVS.

While the state was actively working on delivering virtual courses to meet increased demand generated through the *AP Nexus* program and school requests, thirteen school systems from across the state developed virtual learning initiatives on their own. In 2004,

nine of these districts formed the Georgia eLearning Consortium (GLC). The purpose of the consortium was to identify ways in which these districts could work together and share knowledge, resources, and expenses associated with virtual learning. Some of the ways in which they collaborated were by sharing course content and professional development.

> "I have never seen such dedication from a group of professionals such as the GaVS team—the instructors, support staff, and administration work tirelessly to promote the best instructional practices and learning opportunities for my child."

In early 2005, the GaDOE convened these thirteen school districts, including members of GeLC in Atlanta, to discuss the desirability of a state-sponsored virtual school. The response was overwhelming. Several school systems expressed that they were in the process of creating their own programs simply because they believed little else was available. Many stated that they would prefer to be a part of a statewide program rather than expend enormous amounts of time and money to create their own programs, which would result in duplicate efforts across the state. Leadership and direction were key elements that the districts looked for from the state. All were willing to collaborate and contribute to a statewide program. The contributions of these districts were crucial to the launch of GAVS. The districts that had already been actively engaged in virtual learning contributed substantially in the early stages of development by providing course content and seats to GAVS. Along with GAVS, some of these districts continue to grow their programs based on their local needs (i.e., Gwinnett County - *http://www.gwinnettk12online.net/*; Cobb County - *http://www.cobbk12.org/cobbvirtualacademy/index.htm*, Dekalb County - *https://www.dekalbonlineacademy.org/*) Students within these districts are served first through their local online program. If their needs cannot be met locally, then GAVS or other sources are utilized. In 2007, GAVS worked in collaboration with the North American Council for K–12 Online Learning (NACOL) to establish the first NACOL state/regional committee that includes all individual and corporate NACOL members across the state. (NACOL has since become the International Association for K–12 Online Learning, iNACOL.)

Early Stages for Funding

The Virtual School Plan, the *AP Nexus* grant, and the experience of the thirteen school systems became a part of the building blocks that led to the Georgia Virtual School Bill. Upon its creation, the legislature appropriated $500,000 in the supplemental 2005 budget as seed funds to start the program. In the 2006 budget and year one of GAVS, $1,350,000 was appropriated. Shortly after the bill was approved in May, a program manager (principal) and two education technology specialists (assistant principals) were appointed to get the school up and running by summer. This group would be housed in the GaDOE's Technology Services Department. Information gathered during the summer months led the staff and group of advisors to develop the frameworks for creating and delivering instruction to Georgia students. The challenges GAVS initially faced can best be described as "trying to fly and build a plane at the same time." To be ready to serve students throughout the state, the staff had to:

- Identify and locate which courses they would offer in the fall;

- Hire and train teachers who met Georgia teaching standards to teach online;

- Determine how to register students;

- Select and set up a learning management system;

- Establish policies; and

- Get the word out.

GAVS did not have the luxury of time; therefore, many of these tasks had to be conducted within the same timeframe. Although it is essential that each of these tasks are well thought through, GAVS did not short change two things during this process: involving experts throughout the state in planning, and spreading the word about GAVS.

1. GAVS formed an advisory group made up of the districts already engaged in virtual schooling, a representative district from each region of the state, other departments within the state DOE, and key nonprofits, i.e., the school board association. The Advisory Group provided an opportunity for input as well as gaining buy-in during the planning and development stage of GAVS.

2. GAVS also created a communications plan that would educate the communities throughout the state. While the staff was busy laying the groundwork for the infrastructure of GAVS, the Advisory Group and communications effort began building the advocacy and understanding of the opportunities for learning from GAVS. In addition to all the tasks at hand, they felt the pressure that policymakers would be looking at what progress had been made shortly after the fall semester had opened.

"Georgia Virtual School is the "game-changer" to improve education here in Georgia . . . I just hope people will listen to us . . . the students!"

After three years of operation, Georgia Virtual School has been established as a supplementary online educational program created to operate from the GaDOE's main offices in Atlanta, Georgia. Working with the local school districts and private schools, GAVS serves public, private, and home study student populations from across the entire state of Georgia with priority in registration allocated to public school students. GAVS's primary mission is to serve students from within the state; however, students outside of Georgia may enroll in GAVS on a case-by-case basis if seats are available after Georgia students have had the opportunity to enroll. In addition, out of state students are required to pay tuition. Online courses are offered within the traditional school calendar of fall, spring, and summer semesters with flexibility for students offered through various course start dates throughout the semester. The Georgia Board of Education and GaDOE have regulatory and rule-making authority over the program. GAVS serves primarily high-school-level students as determined by the level and types of courses available. However, the program has expanded

its offerings to middle school courses and, over time, will possibly expand to also serve elementary students.

Growth and Funding

In 2006, the Georgia legislature appropriated $2.2 million for the 2006–2007 school year. In 2007–2008, GAVS funding increased to $2.8 million and included supplemental funds in the spring of 2008 for a total of $4.1 million, and for 2008–2009, GAVS funding totaled $4.1 million. In the formative years of GAVS, funding created boundaries for both opportunity and growth. Georgia Virtual School's student population is drawn from the entire state of Georgia's student base of public, private, and home study students. In the 2005–2006 school year, Georgia's public school student population numbered 1,559,828, and of those, 74,059 graduated. Approximately an additional 100,000 students were enrolled in private schools or registered as home study students.

During fall and spring semesters, Georgia Virtual School offers a limited number of state-funded segments of enrollment to students throughout the state of Georgia based on the amount of funding available. Students are limited to one Carnegie unit of state-funded segments of enrollment per semester, with hospital exceptions granted to special student populations such as hospital, homebound, alternative education, and residential students. The Board of Education chose to limit students to one Carnegie unit per semester to promote equity across the state since GAVS is funded for a limited number of enrollments each semester. Its state-funded segments of enrollment are not limited on a per school basis by the Board Rule and are determined by local school approval. In addition, with local school approval, students can enroll in additional courses for tuition. The number of segments of enrollment in tuition-funded courses is not limited.

"Students are desperate for a learning environment that challenges them, engages them, and provides them with real world applications for the future—GaVS does just that!"

While registration priority is given to public school students, private and home school students also have the opportunity to register for state-funded seats. However, these seats are limited. Georgia Virtual School also offers tuition-funded seats to public, private, and home school students during the fall, spring, and summer semesters. These seats are not limited, but, as with FTE-funded seats, local schools must approve students' course selections before they are enrolled. Tuition costs $300 per .5 Carnegie unit course (one segment) or $600 per one Carnegie unit course (two segments). In 2006–2007, approximately 20 percent of the students enrolled in GAVS were private and home school students.

Georgia Virtual School serves public, private, and home school students by providing course offerings of over 127 unique core, AP, and elective courses, including SAT Preparation, each meeting QCC/GPS or College Board standards. (Course Listing: *http://www.gavirtualschool.org/LinkClick.aspx?fileticket=s05QauRzPnA%3d&tabid=36&mid=519*)

These classes are offered in both block and semester formats on various schedules to meet the differing course offering and scheduling needs of local school districts. The number of courses and other offerings will change as student needs are identified.

Georgia Virtual School offers high-school-level online classes to primarily high-school-level public, private, and home study students. GAVS also offers middle school courses for middle school students, and both middle school and younger students may enroll in a GAVS course if approved by their local school or educational caregiver. Courses are aligned with the Georgia Department of Education's Performance Standards and taught by highly qualified, Georgia certified teachers. GAVS also requires students to engage in state mandated assessments associated with the related course(s).

At its inception in 2005, one of the driving forces for the establishment of the Georgia Virtual School bill was increasing access to AP courses, especially for low-income and minority students. In one year, GAVS increased its enrollment in Advanced Placement courses by 49 percent (see Figure 6-1). To continue to increase success on the College Board AP exam, GAVS added AP practice exams that are available free of charge to all students in the state. However, seats for these practice exams are limited and enrollment is accepted on a first come, first served basis.

Advanced Placement Enrollment
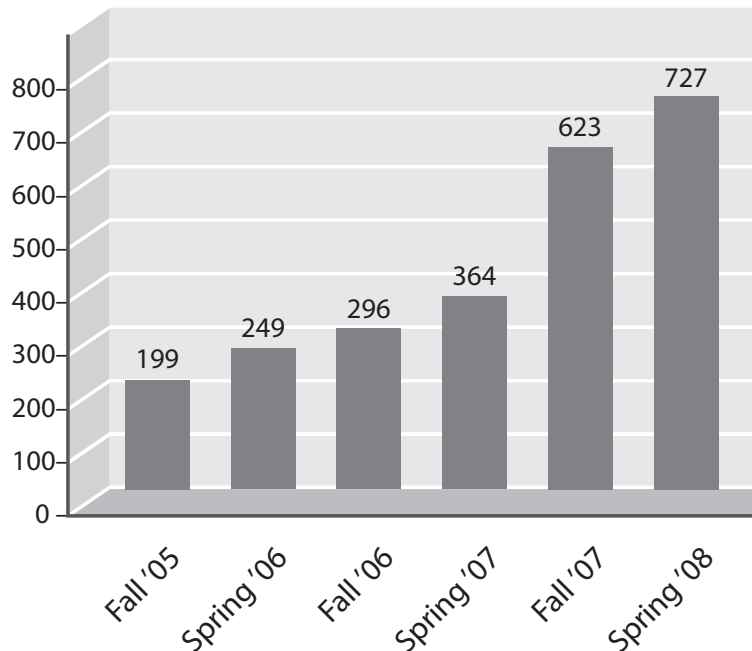
Figure 6-1. Advanced Placement Enrollment by Year

In addition, GAVS increased its enrollment by 69.3 percent in year one and 57.9 percent in year two of the program.

> *"The graduation rate is improving in this state thanks to the dedication of GaVS!"*

In the summer of 2007, GAVS partnered with the GaDOE's division of School Improvement to develop a state online credit recovery program. The GaDOE's Credit Recovery Program is designed for students who have previously failed a course and to enable students to stay on track to graduate. Credit Recovery courses are designed for a flexible schedule and are not facilitated by a teacher. The GaDOE's Credit Recovery Program currently offers 17 self-paced courses. Each school must provide an on-site Credit Recovery monitor that assists students as they work through the content. Each unit in each course consists of a pre-test, content, and a post-test. Students must complete the pre-test and post-test of each unit. If a student scores 85 percent or better on the pre-test, they may skip the content and take the post-test. The student must score 70 percent or better on the post-test to advance to the next unit. If any of the above thresholds are not met, the student must work through each section of the content in order to attempt the post-test. Over 267 schools and 13,432 students enrolled in 16,712 segments were participating in the GaDOE Credit Recovery courses through GAVS at the end of September 2008.

GAVS has been awarded multiple honors and distinctions.

- GAVS was recognized as a program award winner at the 2007 Desire2Learn Users Conference chosen for its program vision, organization, and impact. Setting GAVS apart from other virtual schools was its innovative implementation of a credit recovery model for students.

- Twenty-six GAVS Latin I and II students received awards in 2006– 2008 from The National Latin Exam (*http://www.nle.org*).

- In coordination with the Georgia Professional Standards Commission and the Georgia Department of Education, GAVS convened a task force in 2005 that developed standards for a certificate of endorsement in online teaching, the first such standards in the nation at the time. In 2008, GAVS completed development of the three courses that will lead to the online teaching endorsement.

- GAVS was also a part of the GaDOE's National Governors Award 2005–2007. GAVS was awarded funds to increase course offerings and professional learning opportunities, develop AP practice exams, and offer a limited number of AP scholarships to under-represented populations of students.

Administration and Policy

Georgia Virtual School is housed in the State Department of Education and is accountable to the State Superintendent of Schools, as well as the Governor. The school establishes and communicates a shared purpose and direction for improving the performance of students, schools, and systems. Although GAVS carries the term 'school' in its title, it is technically not a school. GAVS is a program that is housed within the Division of Instructional Technology of the Georgia State Department of Education.

Funding for GAVS is appropriated by the General Assembly. The Georgia Board of Education requests funds for GAVS, and the approved funding determines the number of enrollments/students that GAVS can serve. GAVS serves public, private, and home school students 21 years of age and younger, giving priority to public school students. Local school systems and private schools, as a condition for participation in the Georgia Virtual School Program, agree to transcribe and award credit earned by students completing coursework through the Georgia Virtual School Program. A record of home study students' participation in Georgia Virtual School Program courses is maintained in-house at GAVS.

A two-phase registration process is used to distribute both state-funded and tuition-funded seats. Phase I involves public school registration. Public school students register for courses during a specific amount of time before registration is open to private and home school students. Private and home school students register for courses during Phase II. Enrollment for these students in state-funded seats is based on the number of state-funded seats available after Phase I of registration is complete. However, no student is enrolled in his or her course(s) until local school approval is received. For home school students, a Georgia Virtual School support specialist approves the courses. Georgia Virtual School students represent the strata of the state's students racially, ethnically, and economically as indicated by those enrolling from public schools that qualify for Title 1 funding.

In addition, local school systems cannot claim FTE segment credit for class periods in which its students take an online course through the Georgia Virtual School Program. In other words, local school districts with students enrolled in approved online learning programs for courses during the regular school day are not funded for the amount that would have been earned by the student for the equivalent course at the school. Public school, private school, and home study students who are enrolled outside of the regular school day (state-funded schedule) or who are enrolled in a summer school term will be charged tuition for the courses in which they are enrolled.

Instructional Staff and Student Support

"The teachers facilitate my learning and push me to become a better self-directed learner."

Instructional staff employed or contracted by the Georgia Virtual School Program must be highly qualified and hold a Georgia teaching certification as required by the Georgia Professional Standards Commission. In addition, teachers are also required to complete training as outlined in the Georgia Virtual School Program Teacher Handbook.

To assist students, facilitators are appointed by local school systems, private school administrators, or GAVS and may be full-time, part-time, contracted, and instructional or support staff. Facilitators' responsibilities, guidelines, and procedures are outlined in the Georgia Virtual School Program Facilitator Handbook. Additional support is available through the GAVS Facilitator Resource Center.

It is important to note that 2005 legislation required GAVS to provide an annual report to the legislators that includes information—such as the number of students enrolled, the number of students participating in Advanced Placement courses, and the number of students completing virtual courses—to assist them in monitoring their progress.

> *"Our students who have taken a Georgia Virtual School course score on average 30% higher on their End of Course Tests."*

In early 2008, GAVS received full accreditation status from The Commission on International and Trans-Regional Accreditation (CITA) and the Southern Association of Colleges and Schools (SACS) and has grown to a staff of 204, including 7 full-time and 4 part-time administrators, 9 full-time teachers, 10 half-time teachers, and 120 adjunct teachers. All teachers are certified in the state of Georgia and highly qualified as defined by the NCLB requirements. As GAVS continues to grow, additional highly qualified staff will be hired based on the number of enrollments per course.

Outcomes and Lessons Learned

Within its first years, GAVS faced both success and challenges. Immediately, GAVS was caught up in managing expectations and educating the community and policymakers, while creating, building, and delivering services that existed on an infrastructure that was not widely known or understood. GAVS sought to provide a new kind of classroom—a classroom that would change the look and feel of content where the content could be accessed any time and any place.

In the second year of operation, GAVS experienced 69 percent growth in overall enrollment, and in the third year of operation, GAVS experienced a 58 percent growth in enrollment, as shown in Figure 6-2.

Georgia Virtual School Growth

■ Fall　□ Spring　▨ Summer

	Summer	Spring	Fall
Year 1	913	1,773	831
Year 2	1,355	2,792	1,809
Year 3	1,511	4,619	3,274
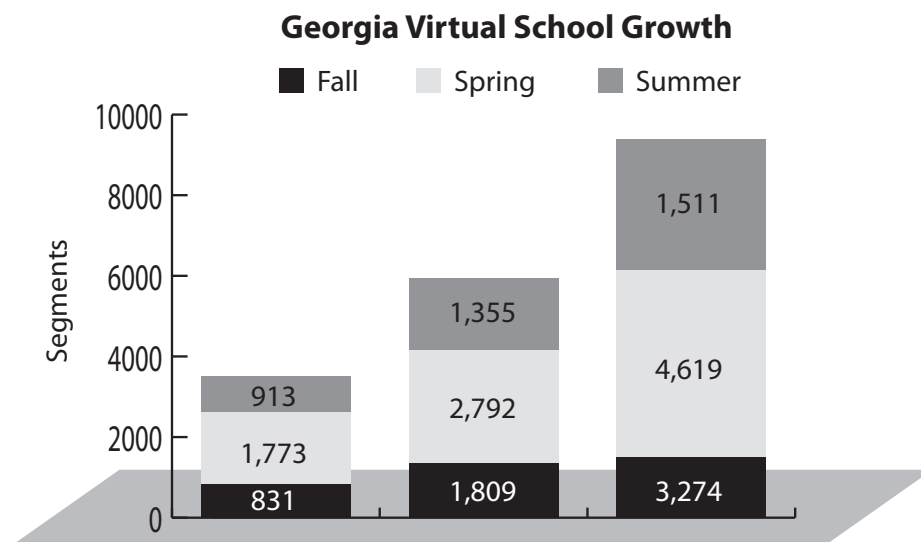
Figure 6-2. GAVS Growth from 2005 to 2008

Within AP offerings, there was a 47 percent growth in enrollment after the first year and a 105 percent growth in enrollment after the second year. The pass rate of GAVS AP Students has been consistent with state scores fluctuating between 51 percent and 56 percent. With increased demand came a 14 percent growth in teachers trained. Overall, GAVS students scored better than the state average on all end-of-course tests for summer 2006 and spring 2008 (see Figure 6-3).

EOCT – Percent Passing (8 Course Composite)

■ State Passing Rate   ▢ GAVS Passing Rate
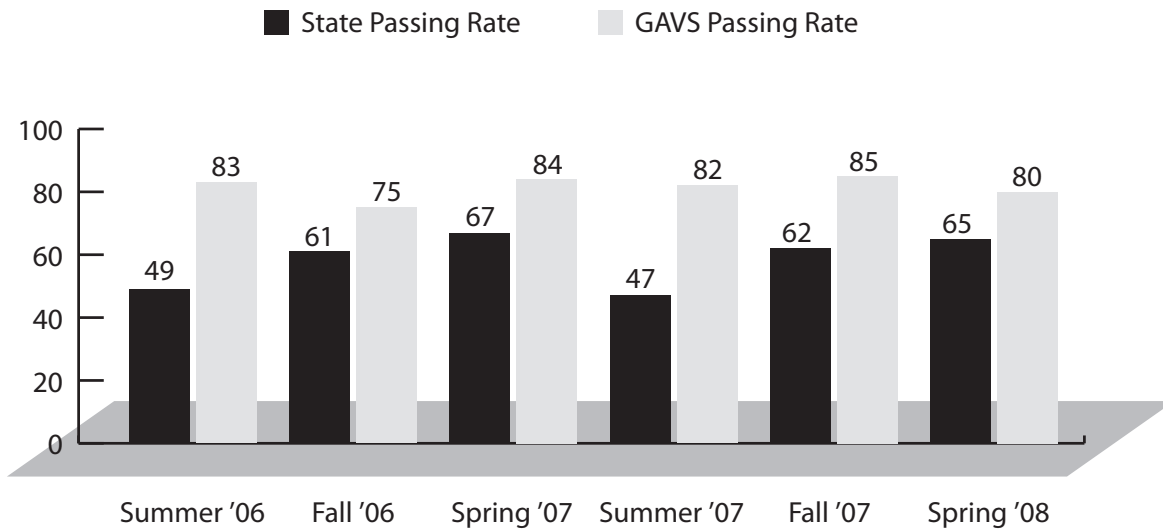
Figure 6-3. Pass Rates of GAVS Students and All Georgia End-of-Course Test Takers, Summer 2006 through Spring 2008

Communication was a key factor in the success of GAVS in year one. There are a number of misconceptions regarding virtual learning, such as "teachers have it easy online" and "it is all about technology." (See Top 10 Myths about Virtual Schools *http://www.inacol.org/research/docs/Ten%20Myths%20About%20Virtual%20Schools.pdf* Overcoming these misconceptions would be key to local school districts viewing virtual learning as an added value to their organizations. In addition, local school districts were required to approve each student and assign credit. Therefore, the local district is a critical link to students enrolling in GAVS courses.

In the summer of 2005, GAVS launched a grass-roots effort to educate school districts on the opportunities GAVS had to offer. This effort included developing and distributing promotional material, local town meetings, and face-to-face meetings with school administrators and district superintendents. In general, most of the community supported GAVS's efforts and saw opportunities to serve their students in areas of need. However, there was hesitation by a few districts that feared losing FTE dollars to GAVS when students participated in online courses. Overall, by going out into the communities, GAVS was able to develop relationships within the local communities and districts that would be valuable in building

trust and understanding in virtual learning. Over time, GAVS knew their track record would build creditability of their program in local communities throughout the state.

"Georgia Virtual gave me an opportunity to take Advanced Placement Physics, a course not offered at my local high school. I have since taken four additional Advanced Placement courses through Georgia Virtual and I am convinced those courses have prepared me for future course work at Cornell University. Thank you Georgia Virtual!"

Although a number of virtual schools are already established in all parts of the United States, online education remains in the relatively early stages of development providing very little precedent for organizational design, processes, benchmark assessments, and infrastructure. Within the infrastructure of virtual learning, there are an unlimited number of opportunities to capture data surrounding the learning environment. GAVS collects data concerning grades, standardized test scores, and user enrollment. In addition, it collects data through student, parent, teacher, and facilitator surveys. In 2008, GAVS established a department that would focus on Accountability and Assessment to concentrate on utilizing data to measure progress and to inform instruction and administration of GAVS.

Historically, there is very little precedent or research on funding models for virtual schools. As predicted by current GAVS growth data, discussions will continue about appropriate funding to best serve the needs of Georgia students. Currently, GAVS funding is provided based on an appropriation from the state legislature for a specified number of segments. In addition, there are other costs associated with virtual schools that support the delivery of effective instruction. One of these areas in which education is needed is in the area of infrastructure. Virtual education includes capital, maintenance, and operation costs. Funding is required to secure physical space for GAVS staff, servers and other technological devices, and the storage of these devices. As the need for online courses increases, GAVS will continue to work collaboratively with the Governor's office toward a funding model that meets the online learning needs of Georgia school systems.

Best Practices

To meet the demands of its stakeholders, GAVS concentrated in two particular areas in virtual education: teachers and teacher support. Building on past experiences and Georgia's previous work in e-learning, it is no surprise that best practices exist within these areas. A key component to this best practice in teaching is developing meaningful connections between selection and hiring of teachers, involving teachers in development and continuous improvement of course content, and providing a measurable feedback loop to the teacher and the support staff surrounding the teacher (learning community). The establishment of this thread increases the opportunity for the highest quality learning experience to

reach the student. In addition, this approach facilitates and assists teachers in developing expertise and in executing professional judgment to meet the needs of students.

Highly Qualified Instructors

> " *I have seen student's lives transformed as a result of the Georgia Virtual School. Keep up the excellent work!*"

Ensuring a high-quality learning experience for all students begins at GAVS in the *selection and hiring of teachers*. Georgia Virtual School set its own criteria for hiring online teachers. As stated earlier in this chapter, in 2005 GAVS participated with the Georgia Professional Standards Commission in developing standards for online teaching in Georgia, which led to a voluntary endorsement in online teaching by the state in late 2007. These standards, along with the standards developed through the Southern Regional Education Board, make up the criteria GAVS uses in their selection and hiring process of teachers. Incorporating these standards within our hiring process creates the framework in which expectations are set for teaching and learning—Standard I: Content Knowledge, Skills, and Concepts for Instructional Technology; Standard II: Online Teaching and Learning Methodology, Management, Knowledge Skills, and Dispositions; and Standard III: Effective Online Assessment of Teachers, Students, and Course Content. In addition, each online instructor must successfully complete a virtual training course, addressing the pedagogy of online learning and instruction, as well as the policies and procedures specific to Georgia Virtual School. Another component of the trainees' instruction is to serve as student teachers monitored by experienced online teachers in live classrooms. Only trainees who successfully complete both the virtual training course and the student teaching experience are eligible for hiring. Once teachers are hired, they are grouped with an experienced teacher who coaches them through their first year of online teaching. This helps ensure the quality and consistency of online instruction. In addition, AP instructors are required to successfully complete AP training before teaching Georgia Virtual School program's AP courses. In 2008, Georgia Virtual School had 165 highly qualified teachers who had been trained to teach online. Of those 165, approximately 70 are certified to teach one or more Advanced Placement courses.

High-Quality Professional Development

Another practice that contributes to the success of students at GAVS begins with *connecting and integrating teachers in the development and continuous improvement of course content*. GAVS utilizes teachers in the course development process. By involving them early, teachers are able to incorporate standards and ensure rigor, as well as developing ownership of the content. This practice results in teachers being better able to adapt the content to the class and individuals when necessary. In addition, GAVS requires each teacher to provide one enhancement to the course at the end of each semester. For example, teachers may add more questions to the question pools for tests, so tests in the course become richer.

An essential step in maintaining a high-quality learning environment is finding ways to reinforce the online teaching standards. GAVS evaluates and monitors the success of the courses and online instructors through:

1. Annual teacher, facilitator, parent, and student surveys

2. Teacher input

   a. Face-to-face meetings twice a year

   b. Monthly department meetings

   c. Virtual professional learning opportunities throughout the year

"As a parent who comes from the private sector, your framework, course work, and delivery model is truly preparing my son and other students for success in the future world market."

Any information gathered through any of these methods is shared with appropriate parties, teachers, and department heads, as well as incorporated into practice, i.e., instructional design process. Setting the context for online teaching during the selection and hiring process, and then connecting the teacher to course development and management are practices that create high expectations for teachers both in teaching and content development. Another key component in this process is the *support mechanisms* surrounding the teacher. Teachers are organized by discipline into departments reporting to a department chair that provides direct supervision and support to the department. The department head is responsible for direct support on issues related to GPS, flow and sequence, and other content-related issues. In addition, trainees are given a mentor who assists with their training by providing a supervised teaching opportunity. New teachers are placed into interdisciplinary groups and assigned a coach to provide guidance and professional support into online teaching. Coaches provide professional collegiality with someone who is not their supervisor, as well as facilitation of creative ideas and cross-discipline opportunities.

The layout and design of the organization overlaid with professional roles, i.e., mentors and coaches, blends both formal and informal systems for the learning community. This approach enhances and expands professional dialogue resulting in a higher incidence of social networking and development of skills. This increase in organizational capacity also fosters a healthy professional environment for teaching, building trust and more opportunity for ideas to be nurtured.

An example is that at least once a month GAVS conducts a "just in time" training session on relevant topics, ranging from "how to" to time management, and also serves as a form of continuous development for teachers. To reinforce this practice, GAVS has implemented an online teacher performance checklist with 42 items in seven categories: 1) Instructor homepage content, (2) Course introduction unit content, (3) Instructor discussion participation, (4) Instructor feedback on assignments via course dropbox,

(5) Course assessments and quizzes, (6) Grades and grade book maintenance, and (7) Communications (administrative, student, and parent). These seven categories are aligned with the professional development experiences GAVS requires of its teachers.

Effective Communication

Essential to the success of this focus on teachers and teaching is communications. Along with the opportunities for teachers to get together formally and informally, GAVS has created communications guidelines. Teachers are expected to create office hours and utilize both telephone and e-mail to communicate. In addition, to providing direction on how and when to communicate with key stakeholders, the guidelines set expectations for providing feedback in a timely fashion.

> " *I appreciate the one-to-one instruction time my child receives in an environment that is differentiated based on her learning needs.*"

Communication is key to setting and managing expectations for everyone; therefore, GAVS monitors teachers in this area. Teachers do not find the monitoring to be threatening because teachers are provided feedback that can help them in developing effective communications skills. For example, teachers are provided guidance in how to improve their feedback to students, as well as "just in time" intervention to students struggling with their course. By focusing the feedback to teachers on the needs of the student, teachers welcome the support they receive regarding communication.

Lastly, a support team consisting of three counselors and two media specialists engages with the students throughout the entire registration and learning process, communicating with the school facilitators and working with parents on topics that include registration, technical support, communication, and many more. This team provides an additional level of communication and support to increase the likelihood a student will be successful at GAVS.

While GAVS has not completed a formal evaluation of its best practices, we strive for continual growth and feedback from our stakeholders (teachers, students, parents, and community) through focus groups, town hall meetings, and surveys. It is the desire of GAVS to complete an external evaluation of our best practices.

Future Plans

After four years in operation, GAVS has laid the foundation of a successful school. One of the next steps that GAVS will be focusing on is refining and expanding the organization. Being an integral part of the educational process of the state of Georgia, GAVS needs to build out some

of the functions that are critical to delivering high-quality online learning experiences, as well as continuing to integrate into the Georgia Department of Education's goals and initiatives to be more efficient and effective, i.e., data collection, student information, curriculum, and tools.

Some of the initiatives to which GAVS has contributed include the following:

- Provided free access to all students in the state of Georgia to AP practice exams

- Collaborated with the Georgia Department of Education's Division of Standards, Instruction, and Assessment to provide a set of math resources, free of charge, to all Georgia schools in order to help schools offer opportunities to students who are not meeting new math standards, as well as to help teachers who may be struggling with new math curriculum

- Collaborated with the Georgia Department of Education's Title II-D program to provide a middle school technology literacy assessment to Georgia schools, free of charge, to help Georgia schools meet NCLB requirements

- Crafted guidance for Title IID ARRA grant for Blended Learning Opportunities to award approximately $1.7 million in funds to two high schools

- Developed middle school courses, including Language Arts, Math and Science, World Languages, and Electives

- Added technological capabilities that will enhance opportunities for students; GAVS provides a learning environment that develops 21st century skills that will be needed to function as a citizen and a professional in the 21st century, such as global learners, self-disciplined, and electronic communications

The above examples demonstrate how virtual learning can be a solution to some of the needs that have been plaguing education for many years. However, cultural, organizational, and financial barriers create the biggest challenges. These challenges exist at all levels— federal, state, and local. Currently, GAVS is in its fourth year of operation. To continue to build and grow, it will be essential that GAVS concentrate our efforts in three areas:

- The role of GAVS in the overall delivery of education in Georgia

- Opportunities for a statewide Learning Management System for all districts to promote blended/hybrid learning opportunities

- Increases in funding needed to build and sustain GAVS

- Education and service to the citizens of Georgia

A key to success will be leadership within the State Department of Education and within the legislature to continue our mission of leading the nation in improving student achievement.

Links

Georgia Virtual School, *http://www.gavirtualschool.org/*

Georgia Virtual School legislation,
http://www.doe.k12.ga.us/_documents/doe/legalservices/160-8-1-.01.pdf

Idaho Digital Learning Academy

Donna Hutchison, Ph.D., Founder and Former CEO[1]

The mission of the Idaho Digital Learning Academy is to serve the students, districts, and state of Idaho by providing a high-quality public school education, aligned with state achievement standards, and utilizing innovative elearning methods of delivery.

Idaho Digital Learning

www.idahodigitallearning.org

Historical Perspectives and General Overview

The Idaho Digital Learning Academy (IDLA) was created in 2002 as a state virtual school providing choice to students in the state of Idaho. From the beginning, the Idaho Digital Learning Academy had a firm foundation in online instructional practices, a focus on quality and accountability, and partnerships with key stakeholders in Idaho. These priorities enabled IDLA to grow at a phenomenal rate and secure ongoing funding, demonstrating its acceptance as a quality educational opportunity for students and Idaho school districts.

Historical Perspective

The Idaho Digital Learning Academy was originally created within the State Department of Education by an act of the Legislature in 2002 (Idaho Code Title 33 Chapter 55, *http://www.legislature.idaho.gov/idstat/Title33/T33CH55.htm*). The goal of the legislation is to "provide choice, accessibility, flexibility, quality and equity in curricular offerings for students in this state." Idaho is a rural state and the thirteenth largest geographical state with only 1.3 million people. Educational opportunities for rural students are limited (*http://www.sde.idaho.gov/site/ruraleducation/*). To that end, the Academy was created as "a school-choice learning environment, which joins the best technology with the best instructional practices."

> *"The Idaho Digital Learning Academy offers collaborative relationships with Idaho's teachers, administrators, and colleges which are the link to a strong and seamless educational system."*
>
> — Idaho Association of School Administrators, 2010

The legislation did not have its roots in the 2002 legislature, but in a group of school superintendents who, in the fall of 2000, levied themselves $.50 per student to initiate a study on virtual learning. Over $100,000 was dedicated for the study by the majority of the districts in Idaho and was formed in response to school administrators recognizing that online learning would grow and become an important future for Idaho schools. "Most of the administrators meeting to discuss this idea had little or no real experience with online learning! But they did have a vision and a determination to lead in this area rather than wait to be led by someone else!" (Friend, 2007). Their foresight and initiative generated a draft of legislation that was taken to the 2002 Idaho legislature to form a state virtual school. The proponents of the original study stated, "Because of its inherent capability to address a number of educational needs throughout the state in an effective, cost efficient manner, the IDLA must become recognized as a program that is necessary to help the State of Idaho meet its constitutional obligation to provide a free and appropriate education to the children of the state" (Friend, 2007). Never did they imagine that this "small" project would have such an effect on student learning and access in just a few years.

Legislative Funding

IDLA was formed in statute in 2002 in Title 33 Chapter 55 of Idaho code, with all but a few legislators voting in favor of forming the academy. However, the Idaho legislature did not initially fund the program, desiring enrollments and interest before dedicating the funds. Therefore, in June of 2002, the J.A. and Kathryn Albertson Foundation donated $1,000,000 to the startup of the Idaho Digital Learning Academy. The first Board of Directors meeting was held in the office of the Idaho Association of School Administrators on June 12, 2002. The operating staff was hired in July of 2002 and the challenge was given: train teachers, develop online content, and offer courses to students and districts by the spring 2003 legislative session!

The first full course offerings were available in the spring of 2003 at no fee and 784 course enrollments were garnered, with participation from 69 percent of the school districts. With this initial show of support, the Idaho legislature dedicated $450,000 to continue IDLA's operations. Dedicating funds to IDLA was a challenge during the 2003 legislative session as the state faced an economic downturn and new programs were traditionally difficult to fund. Monies were allocated in a late legislative session with direction to charge school districts a nominal fee. Fees were set by the IDLA Board of Directors at $100 per course per semester.

In subsequent years, the Idaho legislature continued to allocate funds in an annual appropriation and increased the amount in increments to $1.1 million in 2006. During that time, legislative direction was provided to extend grade levels to all secondary students starting in grade 7 and to "reduce or eliminate tuition." Fees were reduced in 2006 to $50 per course per semester to Idaho students.

Enrollments

Enrollments during this time increased annually at an unpredictable and extraordinarily fast rate. Figure 7-1 outlines enrollments per year which includes summer, fall, and spring. In the 2009–2010 year, IDLA served over 14,300 enrollments in 98 percent of Idaho school districts. Since its inception, IDLA has served over 40,000 enrollments growing approximately 50 percent per year. According to the 2009 Keeping Pace with Online Learning report, the per capita enrollment for IDLA is one of the highest in the nation.

Idaho Digital Learning Academy Enrollments
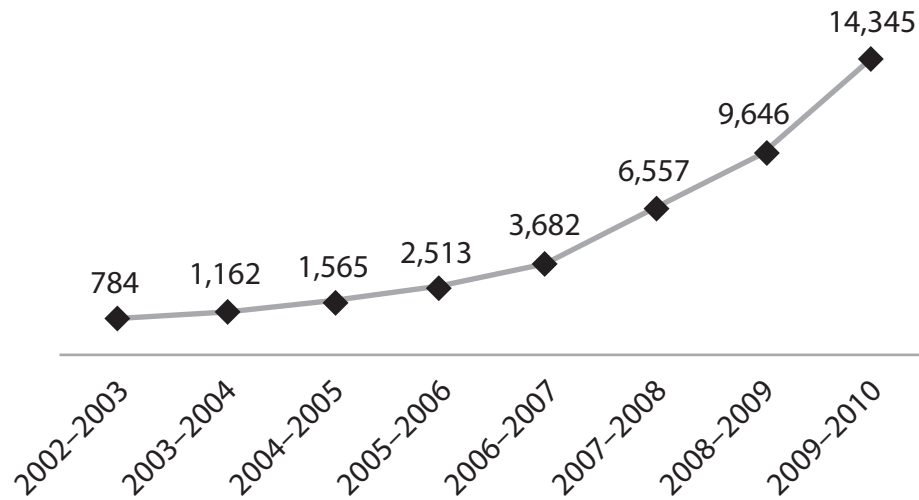
Figure 7-1. Enrollment Growth, 2002–2010

The challenge was to predict enrollments a year in advance to fit the legislative funding timeline and request a sufficient amount of financial support. The highly imprecise method of funding-by-estimate created a situation in the fall of 2006 where enrollments increased at a rate higher than the funding allowed. The IDLA Board of Directors met to solve this problem. The only options were to cap enrollments, eliminate sections and offerings, or increase fees—none of which the Idaho legislature indicated would be supported. This dilemma initiated legislation during the 2007 Legislative Session to finance IDLA on a per enrollment funding formula while protecting local school districts' funding mechanisms. The 2007 Joint Finance and Appropriations Committee of the Idaho legislature approved the funding formula, allowing IDLA to grow, predict, and plan for the future. For the 2009–2010 school year, IDLA received approximately $6.2 million based on enrollments. (Note at press time: Due to the unprecedented economic downturn, IDLA's funding formula allocation for 2010–2011 is capped at $5.0 million.)

Governance

When IDLA was first created in Idaho code in 2002, an accountability and efficiency mechanism was put in place to manage the financials of the academy and allow IDLA to focus on student learning. Blaine County School District in Hailey, Idaho, volunteered to serve as IDLA's host district. Budgeting, auditing, and accounts payable were administered through the host school district. For the first few years of IDLA's existence, it was an effective model. As the organization grew, it became cumbersome and challenging for the host school district;

therefore, the 2008 Idaho legislature unanimously approved IDLA as a governmental entity to be financially independent from a host school district. "The Idaho Digital Learning Academy . . . is not a single department of state government unto itself, nor is it a part of any of the twenty (20) departments of state government . . . It is legislative intent that the Idaho Digital Learning Academy operate and be recognized not as a state agency or department, but as a governmental entity whose creation has been authorized by the state" (House Bill 552). The governmental entity status is unique and is modeled after legislation creating the public health districts in Idaho. State virtual schools do not fit the definitions and missions of public school districts, charter schools, universities, or policy and accountability entities like departments of education. IDLA believes that the designation of governmental entity allows it to continue to grow, meet the needs of Idaho school districts, and accomplish its unique mission.

The 2008 legislation also created strong accountability to ensure proper governance, including expanding the duties of the Board of Directors, requiring an annual audit and budget hearings, upholding ethics in government, affirming rule making and accreditation authority of the State Board of Education over IDLA, and ensuring that budget requests occur via the State Superintendent of Public Instruction and the ongoing responsibility to serve on the IDLA Board of Directors as a voting member. An additional change approved by the 2008 Idaho legislature expanded IDLA's services to encompass all students in the state, including elementary students.

Partnerships

"I said it earlier and I really mean it, IDLA is one of the real 'gems' in Idaho's educational crown," said Representative Mack Shirley, Idaho State House of Representatives.

The initial legislation in 2002 was groundbreaking and provided a blueprint to guide IDLA through the formative stages. It established an eight-member governing board comprised of school superintendents, school principals, the state superintendent of public instruction, and citizens. The school superintendents and principals are elected from the administrative associations representing the geographic regions in the state. The citizens are selected from an applicant pool and represent both business and parental interests. The Board of Directors provides accountability through governance and oversight and ensures that the goals of the legislation are met. The Board of Directors meets ten times per year with three face-to-face meetings mandated by statute. Responsibilities include annual budgeting, fiscal accountability, and establishing policy for issues such as incompletes, tuition, student issues, and strategic planning.

"The Idaho Digital Learning Academy plays a critical role as Idaho works to provide more choices and opportunities within public education. IDLA paves the way in utilizing technology to bring advanced opportunities and highly qualified instruction to every part of our state," said Tom Luna, Idaho Superintendent of Public Instruction.

The legislation also created a relationship with the State Department of Education by providing the state superintendent as an ex-officio, yet voting, member of the Board and responsible to request an annual appropriation to the Idaho legislature. The membership of the IDLA Board of Directors not only ensured accountability, but also created a collaborative entity of local school district personnel and the State Department of Education—critical partners for success. The legislation also gave authority to the Idaho State Board of Education for accountability and accreditation and ensured that they, too, had a sense of ownership with the academy. Rules governing student-related issues such as exams, ethical conduct, student discipline, acceptable use, and teacher interaction are set by the Idaho State Board of Education. The partnerships with state educational entities were crucial to the success of the Idaho Digital Learning Academy as each entity had a vested interest in the ongoing success of IDLA.

As mandated by legislative rule, IDLA reports annually to the Idaho State Board of Education information regarding accreditation and accountability issues. To continue to foster the positive relationships created at its inception, IDLA meets frequently with each of the various stakeholders in a variety of venues including executive board meetings, conferences, superintendent's meetings, and one-on-one to ensure that IDLA continues to fulfill its mission. Created at the behest of the state's association of school administrators, IDLA functions as a supplemental service and school to Idaho's public school districts, 98 percent of which chose to register students for online classes in 2009 and 2010. Local schools retain control of students' grades, transcripts, credits, and placement, and receive the same state funding for online students that they get for students enrolled in their face-to-face classes. This is in recognition that local schools bear all other costs associated with the education of the student except for the instructional cost. Successful online learning implementation requires proper student placement and counseling, student support, technology access and hardware, special education services, headphones/microphones, local Site Coordinators, and fixed expenses at the physical site. During the 2009–2010 school year, 59 percent of students enrolled in IDLA classes during the school day. This increased seven percentage points from the previous year, demonstrating the acceptance of online learning as part of the learning process in school districts.

Figure 7-2 outlines the relationship with the various stakeholders and cites the appropriate statute clarifying responsibilities for regulation and accountability.

Governor of Idaho

Idaho Legislature

33-5505
Promulgate Rules/
Accountability

Regulation and
Accountability

33-1020 and 33-5508
(1) Funding
Accountability

State Board of Education

State Department of Education

33-5504 and
33-5504 (1),
33-5504 (8),
33-5504 (4),
33-5504 (3),
33-5504 (4),
Compliance and
Recommend Rules/
Accreditation

Idaho Digital
Learning Academy
Board of Directors

33-5504 (10)
33-5504 (15)
33-5504B
Financial Accountability
Audits, Hearings, and
Budgeting

33-5503 Membership Elected/Appointed
from Stakeholders (School District,
Public Sector, and SDE)

Figure 7-2. Outline of IDLA Stakeholders

Ultimately the Idaho Digital Learning Academy is accountable to the Idaho legislature. If the academy does not meet the goals as outlined in the legislation and stakeholder needs, the legislature has the authority to modify legislation and funding.

> *"The value of IDLA and what they provide to school districts, especially rural school districts, is immeasurable."*
>
> — Idaho School Boards Association, 2010

The Idaho Digital Learning Academy Board of Directors also realized that other educational entities not outlined in statute were important to the growth of the academy, and relationships were fostered with the Idaho School Boards Association, the Idaho Education Association, and state and private institutions in higher education. All of these educational entities explored common interests and goals, each recognizing the unique educational role that a state virtual school can provide in solving problems. The partners ensured that IDLA had visibility at their respective conferences, had opportunities to present at board meetings and conferences, shared with their stakeholders the benefits of IDLA, and supported IDLA when needed.

IDLA is a state virtual school whose goal is to provide Idaho students with greater access to a diverse assortment of courses and highly qualified faculty. Quality is an important focus at IDLA. Accreditation through the Northwest Association of Accredited Schools is required in IDLA legislation and a full curriculum is available online. According to the legislation, courses are developed based on state standards and best practices in online learning and are the property of the Idaho Digital Learning Academy. Faculty are highly

qualified, Idaho-certified instructors, with more than 50 percent holding advanced degrees. On-going professional development in online learning is required for all faculty.

Continued funding and focus on the benefits of virtual schools are guaranteed by addressing the importance of quality and accountability. One way to ensure quality and accountability is to clearly define appropriate legislation and frameworks by which virtual schools operate. The Board of Directors at IDLA believes that quality and accountability are necessary prerequisites for state funding, as well as the future perception of virtual education. The Idaho Digital Learning Academy's legislation provided a solid blueprint to guarantee quality and accountability, which were priorities during the formative stages. A focus on these attributes has made certain that IDLA is seen as a quality provider of online courses and a solution to a lack of highly qualified faculty and rigor, and for time and distance barriers.

Administration and Policy

The Board of Directors at the Idaho Digital Learning Academy is the authorizing entity responsible to ensure that IDLA fulfills its legislative direction, and the Chief Executive Officer (CEO) reports to it. The IDLA Board of Directors is responsible for developing policy and procedures, employing staff, entering into contracts, obtaining housing, managing the monies, setting fees, and contracting to perform annual audits (Idaho Code 33-5504). A strategic plan was developed by the IDLA Board of Directors with input from various stakeholders in 2009 and is the blueprint providing board direction to the academy. The Chief Executive Officer is responsible for communication of these goals, community and parent relations, communication with the IDLA Board of Directors, budgeting, leadership, and strategic direction. The Chief Operations Officer (COO) ensures the smooth operations of student services, technology, academics, professional development, accounting, and human resources.

Evaluation and Accountability

Evaluation and accountability to stakeholders are priorities for IDLA. Each semester, student evaluations are conducted, reviewed, and disseminated to faculty, staff, and stakeholders. IDLA contracts with Evergreen Education Group to conduct independent evaluations of the program. After surveying stakeholders (including students and administrators from participating school districts), the evaluators found that "results across all three parts of the program evaluation show that administrators and students are satisfied with IDLA and IDLA courses" (Watson, Ryan, & Clark, 2009). Eighty-four percent of administrators rate IDLA as good or excellent, and a similar percentage of students had a rewarding and positive learning experience. Feedback is used in every round of planning and scheduling. As examples, IDLA added entire new class-sessions to fit the "trimester" scheduling plan of some school districts and added dozens of new courses per request by students and districts. This creates a unique challenge to continue to meet the increased demand by schools: "Comparing comments from this 2009 survey to results of the 2006 survey suggests that IDLA's growth and ability to serve so many schools' needs has created a situation where administrators may desire more from IDLA—more start dates, more course topics, and more support" (Watson et al., 2009).

Accountability is ensured through a myriad of other measures. The desired results for student learning are clearly consistent with district, state, and national expectations for student learning as evidenced by the close articulation with Idaho state standards and high participation rates. Courses are regularly reviewed to ensure high quality through an independent review process and data results. Classes maintain integrity by requiring students to complete all course assignments before taking proctored final exams. Proctored finals are taken at the local school district under the supervision of the local Site Coordinator. The final exams are weighted at 20 percent of the course grade. The proctored final exam has always been a requirement of IDLA courses, in part to ensure accountability in the sense of confirming that the student work turned in throughout the semester is a match to the student (and exam results) in the supervised exam, and guidance is provided in the legislation.

Faculty and Online Principals

As of spring 2010, IDLA employs more than 230 Idaho-certified, part-time faculty members trained by IDLA specifically to teach online with pre-developed courses. Nearly 70 percent of the faculty have advanced degrees, and 100 percent of them meet the federal definition of Highly Qualified in the content area(s) to which they are assigned—a critical fact, given IDLA's role of providing Highly Qualified options when districts are unable to do so at the local level. IDLA essentially expands every Idaho district's faculty by nearly 230-plus Highly Qualified teachers.

> *"The IEA has long believed that distance learning can create or extend learning opportunities not otherwise available to all students . . . IDLA brings over 200 highly qualified, Idaho-certified teachers to local districts. In preparation for teaching IDLA students, these Idaho-certified educators receive extensive training and experience in online learning . . . it is especially gratifying that IDLA is Idaho owned and grows Idaho expertise in online learning."*
>
> — Idaho Education Association, 2010

IDLA provides a thorough and rigorous training for its new teachers, recognizing that even for an experienced face-to-face teacher, the online environment presents a whole new set of challenges. Newly accepted applicants begin with a one-credit online orientation shifting them from a face-to-face teacher to an online facilitator, followed by attendance at the annual faculty Summer Conference, and then an eight-week online course (available for college credit) in which they become familiar with the learning management system, best practices in community-building and student support, online pedagogy, online feedback, asynchronous and synchronous instruction, and the details of IDLA's practice and expectations. After this series of trainings (spanning five months), new teachers venture into the online classroom for the first time as instructors. During their first semester of teaching, they participate in mini-trainings providing "refreshers"

and information timely to the expectations of the present week. During the first week, for example, they learn how to access their student rosters, set up their contact information in the courses to which they've been assigned, and make their first contacts with students. The second week might feature how to complete the grade reports that will be due shortly afterward and other information necessary to be successful during the second week of class.

Supporting the part-time teachers, IDLA has a team of full-time Specialists in Curriculum and Instruction. The specialists, qualified teachers in specific content areas (Math, Science, Social Studies, English, Foreign Language, and Electives/Middle School), serve as mentors and communication hubs for the teachers in their specific content areas. They develop new online courses, revise and update existing classes, provide the trainings and professional development opportunities for teachers—and periodically teach classes themselves.

IDLA's online principals routinely observe the online classroom, perform "virtual walk-throughs," and provide feedback to the teachers. The online principals are part-time employees whose "day jobs" include positions as superintendents, deans of colleges, principals, and vice-principals in Idaho school districts. The principals guarantee that IDLA standards of interaction are met, evaluate faculty, and provide support and guidance for disciplinary issues. The principals use an evaluation rubric which, although developed before iNACOL's National Standards for Quality Online Teaching, reflects many of the same principles and practices. Using this rubric and adding comments specific to each teacher, the principals send periodic written observations to teachers throughout the semester, praising instances of positive "teaching moments," and offering suggestions where improvements may be needed. If a teacher consistently falls short of IDLA teaching standards, a principal will send first a "support letter" (indicating that the teacher seems to be struggling in some areas, and offering resources to help that teacher improve in the needed areas); then, if the tendency continues, a "warning letter" (specifying itemized improvements which must be made, and a timeline in which they must be evident); and finally a "release letter," indicating that IDLA will no longer be using the services of that teacher. With the combined support of the principal and the Curriculum and Instruction Specialists, many teachers are able to improve their performance in the identified areas.

The evaluation rubric is also used for performance pay for exemplary teachers. It rewards teachers based on student performance and historical completion rates, intervention strategies for students, timeliness and quality of feedback on assignments, discussion board and communication, administrative requirements, professional development, and student evaluations. Each year the rubric is evaluated and adapted to current needs of the organization and student learning processes. It is a critical component of IDLA's success as it monetarily rewards teachers for "going the extra mile" and creates a feedback loop for early identification of areas that may need improvement.

Local School Partnerships

The majority of IDLA students attend full-time programs at their local schools, taking just one or two classes online—sometimes as part of the school day (with a scheduled class period in a computer lab) and sometimes as an "overload" class on their own time. The most

frequently cited reasons for students' choice of online classes are "scheduling conflicts" and "course not offered" at the local school, followed by credit recovery. Idaho's small rural districts find it difficult to provide the broad spectrum of options locally, but IDLA's 165-plus courses (including difficult-to-staff AP, Dual Credit, and advanced science and math) expand the options available to all Idaho students. A designated Site Coordinator (often a guidance counselor, but in every case an employee designated by the district) at the local school registers students for IDLA classes; ideally, the Site Coordinator serves as a support for that student as well, checking grade reports, receiving communication from the online instructor, and communicating with IDLA about the student's special needs or situations. As one successful principal explains, the ideal Site Coordinator should be a "cross between a den mother and a drill sergeant."

In order to participate with IDLA, district superintendents annually sign a Memorandum of Understanding, outlining the responsibilities of both IDLA and the school district. IDLA's responsibilities include providing highly qualified faculty trained to teach online, delivering quality online courses, and providing assistance through online technology support, online teachers, and regional implementation support. The local school's responsibilities, also outlined in the memorandum, include the provision of a trained Site Coordinator. The Site Coordinator class—a free online training led by IDLA's Regional Coordinators—focuses on techniques for promoting student success, student mentoring, administrative procedures, and technical guides. An increased focus on training, including a reduced tuition rate, has resulted in triple the number of trained Site Coordinators (more than 400 around the state), increased the school districts' understanding of online learning, and improved implementation and student success at the local level.

The memorandum also outlines the school districts' responsibilities to provide required class materials, special education services, access to technology, federal and state testing, and other student support. Technically, the student is still the responsibility of the local school district, with IDLA serving as a supplemental provider of courses and faculty. Many districts view IDLA as an extension of their school, similar to an alternative school or technical academy, and include IDLA's offerings in their school's course catalog and school policies.

Outcomes and Lessons Learned

The primary challenge facing state virtual schools is funding. Initially IDLA was funded as a line-item in the state superintendent's budget, and with enrollment numbers an unknown factor at the outset of every legislative session due to record increases, planning proved exceedingly difficult. Not knowing from year to year what the next year's funding would be, it proved nearly impossible to plan for the future with any accuracy, and staff had to dedicate a significant amount of time each legislative session ensuring the appropriation of adequate funding. In addition, each election year brought new state officials unfamiliar with online learning and the academy, raising fears that a lack of knowledge and support could prove fatal to the ongoing appropriation of IDLA.

Implementation of the new funding formula during the 2007 Legislative Session lessened these concerns. Establishing this unique funding formula for IDLA was in itself recognition

of IDLA's role as an integral part of the educational opportunities for students in Idaho, and a validation of the original vision of the "constitutional obligation to provide a free and appropriate education to the children of the State" (Friend, 2007). This recognition was earned through hard work, a quality program, a focus on relationship building, and a demonstration of the unique role that a state virtual school provides.

Key policymakers see student success as a demonstrable impact of IDLA. For many students, IDLA provides "second chances" unavailable at local schools. In the face-to-face school, for example, a student doesn't usually have the option of taking the first semester of a course in the spring. Any student who fails the first semester of algebra will either be placed in the second semester, where he is unlikely to succeed without having mastered the concepts from the first semester, or be forced to wait until the next fall semester to try again for the full year of math. With the added online option, a student who fails the fall semester can now retake the "A" semester online in the spring, have the option of taking the "B" semester over the summer, and start the next school year with the full year of algebra under his belt. In similar fashion, a student who realizes partway through the fall semester that she is unlikely to successfully complete a course in which she is enrolled can choose to "start fresh" in an online section of that same class; beginning mid-semester, a nine-week session of classes offered in a compressed timeline gives students the option of completing a class before the start of the second semester. The failing student can conceivably restart the class in the online format, pass it in the accelerated session, and rejoin her face-to-face classmates in the spring semester with a passing grade under her belt.

Some districts utilize the online classes in dealing with expulsion and discipline cases. One district has initiated a "Renaissance Program" designed for students on the verge of expulsion. These students spend their mornings working in online classes, supervised by paraprofessionals in a computer lab separate from the school campus, and devote their afternoons to community service. If they successfully complete their online classes and the program, they may reintegrate into the high school. In speaking to the state legislature about his own journey from gang involvement and near-expulsion, one young man testified that he "had never passed a test before" and didn't anticipate succeeding in this program either. He went on to say that his online classes caught his interest and motivated him, his online teachers were accessible and helpful, and for the first time in his life he was attending school of his own accord because he wanted to go to class. Surprising even himself, he passed his classes and returned to the high school, motivated to sever his gang connections and perform academically.

> *When Tessa Beaver began taking IDLA classes as a sophomore, she was a student in trouble. One year behind in her studies, graduating on time seemed impossible. "Without Idaho Digital Learning, I would have been a drop out!" Instead, Tessa graduated from high school ahead of schedule . . . finishing a semester earlier than her classmates. She is now working and saving money for college this fall.*

As the program has grown, one noticeable trend is the increasing commitment of Idaho schools to the successful implementation of IDLA at the local level. For example, eastern Idaho's Malad High School found itself understaffed and unable to serve the few students interested in specific courses such as Advanced Placement or Dual Credit. The school scheduled periods of the day in which students could work on IDLA classes in a computer lab, under the supervision of personnel assigned to facilitate the program. For a Dual-Credit math class, they were able to engage a local retired engineer to mentor students in their online math course. Another example is an alternative school serving Wallace and Kellogg in Northern Idaho. The alternative school has one certified teacher who is highly qualified in two subjects. IDLA provides the instruction and teacher for all other subjects. The school has been quite successful with a group of students whose history might suggest otherwise.

The flexibility of asynchronous online delivery affords academic opportunities to young people in a wide variety of situations. One young woman took three full years of high school online while working as a model in Spain. Another chose online classes so she could leave the state for a semester and train for Olympic trials in figure skating. A new father switched to online classes so he could take a job without giving up his chance to graduate. A cancer patient undergoing chemotherapy continued her junior year from the hospital. An entire ski team spends days on the practice runs and attends to schoolwork in the evenings. A young man with Asperger's Syndrome finds himself able to interact with classmates more comfortably in writing than he is able to do face-to-face. With every passing semester, the number of success stories grows.

Does *every* online student succeed? Of course not. The challenge continues to create courses that can reach students with diverse backgrounds and learning styles, and to motivate those students to participate and successfully complete their online courses. The pass rate (measured as the percentage of students who finish the class with 60 percent or better within a 16-week, 12-week, or 9-week course and a 30-day extension window) has increased steadily each year to 78 percent, with the majority of failing grades resulting from nonparticipation rather than from poor performance. In face-to-face classrooms, a student might pass just by virtue of being present, even without investing in out-of-class homework or study time, and without scoring exceptionally high on in-class work. In the online classroom, however, there's no "back row" where an unengaged student can hang back and eke out a passing grade. An unengaged student is entirely absent; a student who is present is, almost by definition, active in the class.

Each year, we examine our practices with the sole purpose of increasing student completion rate and learning. A focus on continuous school improvement requires us to examine all aspects of the learning process: online course design, teacher training, content area differences, at-risk support, differentiated instruction, technology, implementation, and more. There is a measurable difference in the success of groups of students registered through schools with successful implementation strategies at the local level. These schools have 90% or higher completion rates. At one end of the success spectrum is the Site Coordinator who enrolls students in classes, doesn't explain the program to parents, and turns kids loose to "sink or swim," looking only for the final grade report at the end of the semester. Not surprisingly, students in these circumstances demonstrate lower success rates overall, with self-motivated students completing the courses, but other students (lacking motivation or lacking support when they encounter difficulties) dropping out without finishing.

Equity and access . . .it's the core of online learning. Ben Merrill takes those tenets seriously. As principal and superintendent of rural Notus High School, he created a computer lab, offering his 200 high school students access to Idaho Digital Learning classes during their regular school day. "My kids are so limited in terms of where they live, I thought it was unfair that their courses should be limited," said Mr. Merrill. "Now they get to have the same quality of education because of online learning." Most of Merrill's students don't have computers at home or high-speed Internet access.

At the other extreme of this spectrum stand Site Coordinators who develop entire implementation strategies for their online students, and schools that invest resources in supporting these students. One rural district, for example, funded a dedicated computer lab staffed throughout the day by a paraprofessional who has undergone IDLA training. Secondary students at this high school register for a wide variety of online classes (freeing the school from trying to offer them locally) and spend scheduled class hours in the computer lab working on them. Another Site Coordinator created a page on the local school's Web site dedicated to IDLA news, schedules, and registration information. Other Site Coordinators send information packets home to parents when they register students, explaining the concept of online classes, the schedule specific to the student (orientation session and class schedule), and contact information for questions. Even a Site Coordinator involved at the most "basic" expected level will log in to check students' biweekly progress reports, and touch base with those kids who are falling behind or turning out lower grades.

To meet the needs of school districts, charter schools, and students across the state, the Academy features eight start dates: August, September, November, December, January,

February, March, and June. It is anticipated that as IDLA continues to grow, additional start dates will be incorporated to enable easier transitions when students and districts require additional start times. A challenge in Idaho is that there are 113 districts with two time zones and approximately 25 percent of the districts on trimester schedules. Because of these scheduling challenges, IDLA's courses are primarily asynchronous, with opportunities provided to individual students for synchronous, scheduled one-on-one time with their instructor. Meeting the needs of 113 different districts continues to be a challenge for IDLA in its quest to serve all schools and students. Teachers are incorporating more and more synchronous opportunities in their classes, such as one-on-one tutoring sessions, guest speakers, and other key lessons as synchronous tools have improved and student results have been seen.

However, not all regions of the state utilize IDLA equally or at a rate relative to their size. Some districts have been slower to develop policies and procedures for effective implementation. It has been a slow process, but significant gains were made, and now 98 percent of the districts utilize IDLA in some fashion. Through experience and education of districts, parents, and students and a focus on quality, growth will continue in some of the hard-to-reach areas. Efforts include increased visibility at area events, recruiting a local teacher base to teach for IDLA, increased role of the Regional Coordinators, building on student success, and identifying local community advocates who see the benefits of online learning.
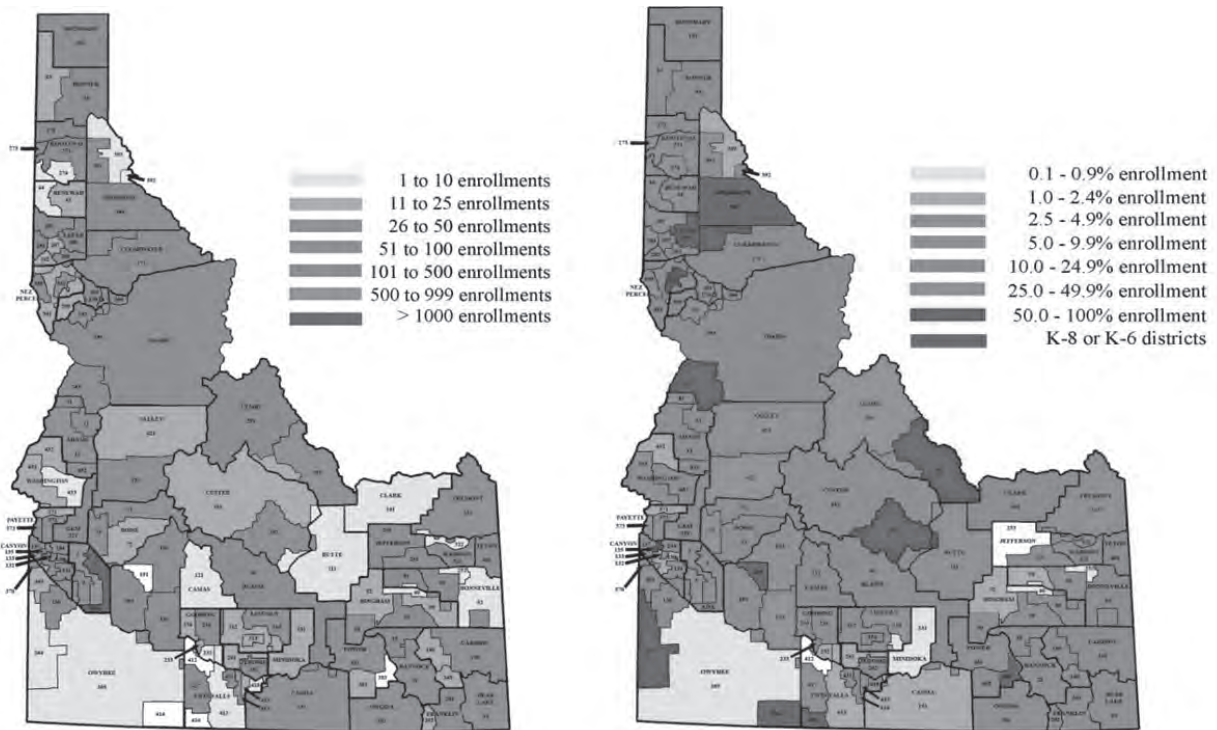
Figure 7-3. IDLA Enrollments Per District (left) as Compared to IDLA Enrollments Per K–12 Population (right)

Figure 7-3 outlines IDLA's enrollments per district and IDLA's enrollments per K–12 population. The figure demonstrates participation across the state and a significant number of areas where online learning represents 25 percent or more of an entire school district's total K–12

population. Over the last two years, significant implementation and adoption of online learning have occurred at the local level, as represented in Figure 7-3. School districts are forming committees to analyze online learning at a much more integrated level. Districts are utilizing IDLA in blended learning pilots and for professional development through IDLA's synchronous webinar series and online professional development offerings. In February 2010, Sugar-Salem School District in southeast Idaho established an online learning requirement for high school graduation, the first school district in Idaho to do so (*http://tiny.cc/sie4a*). Districts are also requesting elementary options as an understanding of blended learning and virtual education has grown.

The unique and innovative instructional design of IDLA online courses attracts many students that need this option, and the courses allow them to be successful. The obvious advantage is the flexibility to overcome time and place constraints and the opportunity for students to receive courses appropriate to their development when the course is not offered at the local school. However, the most important feature of IDLA courses is the student-centered faculty. Students experience success and interaction with their online teacher in times and methods that are convenient to them. The less obvious advantages of this delivery system and instructional organization are the tight horizontal and vertical alignment of the curriculum and the high ownership the faculty feel toward the program. Another distinct advantage of the online delivery format is the ability to build into the instructional protocols a more exact relationship between the course goals, instructional objectives, content, instructional design, and assessment methods. Early in IDLA's development, it was clear that in order to be sustainable courses must be created internally. This also allowed for an IDLA philosophy to be instilled and state standards to be infused across the curriculum. Unlike the brick-and-mortar classroom, where every teacher can close the door and ultimately teach in whatever way he or she chooses, the model of predeveloping full online courses (with instructional components, assignments, assessments, activities, projects, and discussion prompts already in place) enables IDLA to say with assurance that in *every* section of a class, the relevant standards are being met.

Best Practices

IDLA developed several best practices over the history of the program to ensure that all key stakeholders have suitable support to be successful. The stakeholders include Site Coordinators, administrators, students, parents, and teachers.

Best Practice #1: Focus on Student Success

Since its inception, IDLA focuses on students. It is our mission. Student success is critical, whether a student needs a class for getting ahead or for catching up to their peers. Online learning needs to fit each individual student regardless of their reason for enrolling: "I took my math ISAT (Idaho Standards Achievement Test) yesterday and I got a 240 on it. I think that we were supposed to get at least a 228 on it. But this math class has helped me out so much!" Student completion rates are examined at the end of every semester and analyzed in detail to identify trends related to the teacher, course, or section. An action plan is then developed around the data to improve student completion results.

Teachers are also screened and evaluated to ensure they are "learner-centered" and are willing to help the student anytime and anywhere. Students are our "customers" and we welcome their input in the learning process. IDLA values student suggestions on course design and instructional delivery, and even the teacher evaluation process includes student feedback as a factor in the bonus process. A recent evaluation states that "teachers and quality of instruction received very high marks, with approximately nine in ten students reporting positive interactions with teachers" (Watson and Ryan, 2009).

IDLA also believes that student-parent-teacher communication is important in the learning process, whether it is on individual assignments or on an overall plan. Communication is encouraged, monitored, facilitated, and documented through student learning hubs and other technologies. IDLA's student communication system has created and processed over one million messages since March 2008! Separation of distance and time is not a reason to expect low levels of communication. In fact, separation requires increased levels of communication to ensure common goals.

A focus on student success is also critical at the local school district level. According to a recent survey of Idaho school administrators by the Evergreen Education Group (2010), there are five components of support that "appear to increase the rate of student success." The effective practices identified in the study are outlined in Table 7-1.

Component	Effective Practice
Access to online IDLA courses at school	Access to computers is guaranteed for IDLA study at school during the regular school day, and where feasible before and after school.
Staff member(s) to monitor and supervise students and resolve issues	Student progress is monitored regularly, and a trained Site Coordinator supervises students during IDLA study and works with counselors and other staff to resolve issues.
Study in a dedicated lab	IDLA study at school occurs in a computer lab dedicated at least in part to IDLA study.
Integration into regular classes as a dedicated period	IDLA study occurs during a dedicated period in the student's schedule that is part of the school's regular bell schedule.
Process for counseling/prepping students	Students are effectively counseled on IDLA participation and appropriately placed. A checklist of expectations and common misconceptions (e.g., that online learning is easy) is reviewed with students and parents.

Table 7-1. Effective Practices (Watson, J., Murin, A., & Clark, T., 2010)

Best Practice #2: Set Students Up for Success

Table 7-1 outlined the important process that counseling provides in ensuring proper placement, expectations, and common misconceptions prior to taking an online course. IDLA also has found that an online orientation is critical in the process. As each student is registered for the first time in an IDLA class by the local school, that student is also enrolled in an online orientation course. Provided at no charge, the orientation familiarizes students with the online environment and the basic skills they will need to succeed in the online classroom. Orientation is only required once during a student's time with IDLA. The

orientation mini-class is constructed with the same organization and naming conventions as the academic classes, familiarizing newcomers with navigating the online classroom and recognizing where to find lessons, discussions, and resources. Students learn how to locate contact information for their instructors, e-mail through Blackboard, post and reply in the discussion board, submit assignments, check grades, and other introductory skills. Additionally, the course content introduces the Academic Honesty Policy (which details and prohibits practices such as plagiarism, copying, or sharing student work, using online translators in language classes, and "dry-labbing" in science courses), and ensures that necessary downloads and plug-ins are ready to go before the academic session starts.

A natural extension of the "orientation" concept developed into a preparatory session specifically geared toward Advanced Placement and Dual-Credit classes. The "Honors Center," a session provided at no charge, is a warm-up for the rigor of those classes.

Dustin Rinker lives in the small, mountain fishing town of Riggins, Idaho . . . population 410. This all-star athlete is aggressively planning for college. "Our school can't afford teachers that can teach advanced classes," said Dustin. "The only way for us to compete with other students from bigger schools is to take these classes online." Through Idaho Digital Learning, Rinker will enter his first year of post-secondary school with an incredible 26 credits of AP and Dual Credit courses already on his college transcript. A small town student with a big advantage.

"The Honors Center will function like a mini-class, at a pace of one small unit per day. The orientation is designed to prepare you for the rigor of your Advanced Placement or Dual-Credit classes, and to give you a head start at succeeding in them! One of the key success factors is time management—keeping up with the pace of this session will be good practice (and good preparation) for the pace of the courses in which you're enrolled for fall. And you're never alone here. This is an Honors *community*!"

The session introduces college-level time management and study skills and educates students on the specifics of Advanced Placement (AP) and Dual-Credit opportunities. AP participants learn about the AP program, AP tests, and College Board resources, while Dual-Credit students receive information about registration procedures and university policies. Students identify universities in which they have an interest in attending, and research those schools' policies with regard to accepting "Dual Credit" or granting credit based on AP exam scores. They order texts and materials they will need for the start of class, examine their own study styles, and create a Personal Learning Plan and Honors Contract for success in their advanced courses. "Your Honors Contract is your statement of commitment to *succeeding* at the class you're about to start. This isn't a prewritten contract that we hand to you and you sign; it's a contract that *you're*

going to write!" The creative submissions of this last piece have included poetry, humor, cartoons, diagrams, legalistic documents, calendars, and a great deal of eager prose.

The student orientations have recently been expanded to include webinars for parents and other stakeholders to help students be successful online. The webinar series is entitled "Setting Students Up for Success" and includes communication strategies and logistics such as registration.

Best Practice #3: Use Data to Improve Student-Teacher Communication and Success

Data is an important of component of the online learning process. Instructors use the statistics functions of the learning management system to observe student habits and behavior in the online classroom, noting how often—and when—a student is logging into the class, and where in the class (discussions, lessons, grade book, etc.) that student is spending time. A teacher can use the information in talking to students, suggesting better use of time or changes in habits to students who need to show improvement. Conversations with parents and Site Coordinators can also be bolstered by these statistical observations; parents may have misinformation or misconceptions (e.g., seeing a student at the computer every night and believing the student to be working in the class), which can be refuted with specifics on the student's usage (e.g., "he hasn't logged on for four days" or "she's in the class, but only spending time in the Discussion Board"). The same type of information can be useful for online administrators in observing and evaluating teachers, ensuring instructional quality control.

The student registration database (written specifically for IDLA) serves as another tracking source through which reports and inferences can be drawn. Filtering by school of origin, IDLA administrators can compare the success of individual districts' implementation strategies; filtering by reason for registering, comparisons can be drawn between, for example, credit-recovery cases and first-time enrollees, newcomers to IDLA and experienced online students, upperclassmen and younger students, students with different speeds and availability of Internet access, the various individual courses, or the various individual teachers. These assorted statistics are watched and analyzed for trends, with an eye for possible changes that might be needed—improvements ranging from changes in curriculum for a specific class to additional mentoring for a specific teacher to a visit from an IDLA Regional Coordinator to aid in implementation at a local school. One trend that was evident in a comparison of data was the reason for enrolling in IDLA courses. The primary reason given by students was "course not offered locally," and the number two reason was "credit recovery." With the additional focus on highly qualified and federal requirements, IDLA saw a shift in enrollment reasons from prior years. Rural schools used IDLA to meet the highly qualified requirement and enrolled more students in the program.

As the increased use of data to inform decision making has occurred, IDLA has seen staff, faculty, and administration make increased demands on using the system to increase student communication and success. Features such as voice over IP communication and logging for calls, IEP/504/LEP documentation, red/green/yellow success indicator flags for early intervention, automated voice and e-mail replies to common inquiries,

and technical support linked to individual students have increased our responsiveness, student-teacher communication, and student achievement and completion rates.

Best Practice #4: Provide Training for Online Skills and Pedagogy

One of the big differences between an IDLA class and a correspondence class is the presence of a real, live teacher! That gem of a guiding philosophy makes it clear that investment of resources in teacher training is paramount. Every new IDLA teacher undergoes a five-month preparatory program before beginning as an instructor in an online classroom. Hopeful prospects from around the state submit their résumés and applications in the spring semester, with screening of finalists that include Web conferencing interviews and writing assignments. IDLA staff train teachers in the necessary technologies, so the sought-after traits include teachers' content knowledge and communication skills, particularly whether these teachers can project their personalities and presence in the online environment. The selected group of new teachers begins with a three-week online orientation in late spring.

The "IDLA New Teacher Orientation" welcomes incoming faculty to the IDLA educational team and provides an overview of the structure, function, and members of the organization. It introduces participants to basic LMS skills and tools (from both student and teacher perspectives), as well as navigation through the course structure used by all IDLA classes. The first unit ("From School House to Computer Mouse") also introduces some history and context of the changing role of virtual schools in the world of education.

> Welcome! It's your first day on the job! New people, new methods, new environment, and you have a head full of questions . . . *Where's my classroom? Where's the teachers' lounge? Who are my students? How am I supposed to teach them without seeing them? When do I show up for work? Who makes the coffee around here?* (Those questions sound silly, but we DO have classrooms, and students, and a virtual teachers' lounge . . . you'd probably better bring your own coffee, though . . .) This unit is designed to help you get a grasp on the "big picture"—how this online school works, and how you fit into the educational team here.

Because teachers need continuing education credits for recertification, IDLA makes a point of offering college credit for every professional development opportunity. The new teacher orientation is worth one university credit, and the summer conference is worth another two.

The summer conference (a one-week faculty gathering) is the one time of the year when all the staff and faculty spend face-to-face time with one another. Now that IDLA is in its eighth year, the initial hours of the summer conference take on the flavor of "old home week," with returning friends sharing news and hugs and family photos and exclamations of excitement. The conference includes training for new faculty; keynote speakers such as the State Superintendent of Education and nationally recognized experts on topics such as cyber-bullying, Web 2.0, and leadership; workshops on topics ranging from technology tools to best practices in online teaching; and collaboration time among teachers in their subject-area groups.

Best Practice #5: Reward Performance of Teachers

In order to ensure consistency and high standards among our faculty, IDLA instituted a teacher bonus system in 2006 to reward exemplary performance. The bonus system, developed with online principals who oversee teachers, encourages teachers to reach high standards of performance. With an additional $25 per student incentive, the bonus system rewards teachers for high student evaluations, timely completion of administrative tasks, participation in professional development, creativity in discussion boards, high-quality feedback on assignments, and implementation of intervention strategies. These strategies could include additional phone calls to students, one-on-one tutoring sessions, additional accommodations and choice for differentiated instruction, or creative motivational techniques to engage low-performing students in the online classroom. Currently 80 percent of the teachers in IDLA are achieving the bonus, and several outstanding teachers receive recognition awards at the annual Summer Conference.

Each year the rubric is revised with input from online teachers and principals but the immediate focus is clear: student success. One recent addition to the rubric is a comparison to a cumulative pass rate for the course taught. Teachers receive bonus points if they meet or exceed historical completion rates for the particular course. IDLA recognizes that completion rates vary by content area, grade level, and purpose for school districts utilizing the online option. The completion rate per course is an accurate benchmark versus an overall IDLA completion rate.

Best Practice #6: Build Relationships

Christine Vilord's 17-year-old daughter, Kat, is a high achiever. In addition to her high school classes (and tennis . . .and marching band), Kat is earning college credits through Idaho Digital Learning. "Classes through IDLA have challenged my daughter, Kat, and helped her to develop skills necessary for her future," said Christine. Kat is not only taking Dual Credit offerings online, she's also fulfilling her high school Physical Education requirement through an innovative online PE Wii Fit class. "It has been an extremely positive experience for Kat."

An important stakeholder is the Site Coordinator at the local school district who is required to take the online Site Coordinator course, which outlines the responsibilities to ensure student success. Responsibilities include monitoring student progress reports, communication with teachers, registration, and successful implementation at the local level. Over 400+ Site Coordinators have been trained since IDLA's inception. IDLA has also recently added an online class to support at-risk students. In order to receive free tuition in our Idaho Standards Achievement Course required for high school graduation, this class is required. IDLA believes that fee reductions are a good incentive for schools to participate in learning more about how to support online learners. Site Coordinators are

critical for successful implementation at the local level. In addition to the Site Coordinators, technology coordinators and school administrators are also critical. Each year, IDLA hosts an e-learning conference that highlights local school success. Over 300 school administrators, technology coordinators, and Site Coordinators attended the 2010 e-learning conference. As a result, local policies have been examined, face-to-face academies dedicated to online learning have been created, and student completion rates have increased. School districts with dedicated labs and highly engaged Site Coordinators have student completion rates above 90 percent. This increased success translates to programmatic satisfaction. A recent evaluation of school administrators utilizing IDLA found that "Respondents whose schools provided dedicated IDLA rooms, class times and adult monitoring appeared more satisfied with IDLA overall," (Watson, 2009).

Another key member of the team who oversees and promotes the success of the site coordinator is the IDLA Regional Coordinator. The Regional Coordinator's primary purpose is to increase district implementation efforts and student success by providing support to local school personnel, including counselors, Site Coordinators, technology coordinators, and other personnel that work with IDLA students. Regional Coordinators also develop and maintain relationships with parents, students, and teachers for the purpose of being a local IDLA resource. The Regional Coordinator positions were created in 2004 to build face-to-face relationships in their local region. Idaho is the eighth largest state geographically, which makes it difficult to initiate regular face-to-face contact with schools. By happenstance, IDLA stumbled upon a model of contracting with retired school administrators in various key locations throughout the state to service schools and ensure successful implementation. IDLA currently contracts with four retired school administrators who have over 125 years of combined educational experience, either in the superintendency or district administration. Even though Idaho is geographically large, its population is small and the education community even smaller. The relationships developed during the Regional Coordinators' professional careers are now critical to the acceptance of online learning. Research has demonstrated that in order for innovations in education to be accepted, the credibility and trust of the "change agent" is examined (Rogers, 1995). The Regional Coordinators, through their experience and professional careers, are accepted and trusted in their geographic areas, as evidenced by a 98 percent participation rate by school districts.

Future Plans

In the state of Idaho, as in a number of other states around the nation, virtual schools have become a hot and widely discussed topic. The challenge for virtual schools is to ensure that quality and accountability exist to justify the hype, focus, and funding for online education. At the Idaho Digital Learning Academy, we strive to meet this challenge by carrying out the vision outlined by our legislation and implementing measures to address quality and accountability. Future challenges and opportunities abound.

With increased growth comes the need for increased quality control measures and increased student achievement. IDLA believes that innovation based upon research and practice will continue to guide the organization into the forefront of online learning. Quality, innovation, and student achievement remain ongoing objectives.

Service has been a goal of the academy since its inception. How can we better serve students, parents, and districts? Areas of exploration in the coming years will include expansion of blended learning in districts, increased collaboration and communication with parents through expansion of parental observation roles and database automation, extension of lower grades and a K–13 focus, adult high school diploma options, and incorporation of additional synchronous tools and collaborative tools for learning, including mobile devices and gaming.

IDLA is also experiencing an increased demand for e-learning opportunities in professional development. IDLA's professional development efforts were historically internal (training only IDLA faculty and administrators) from 2002 to 2008. Over recent years with statewide budget cuts to education and an increased demand for efficiency, school districts have clamored for online professional development. IDLA rose to meet this need with hundreds of webinars, asynchronous offerings, and establishment of professional learning communities. Over the coming years, we anticipate additional needs in professional development as the need for district consolidation and economic realities increases the demand for online professional development.

The primary challenge with growth in online learning and the demand for educational reform is staying true to the mission. "While the IDLA has accomplished many things in its short history, each expansion not only carries a cost, but there is also the question of sustainability of that program within the mission of the IDLA . . . . Market demands need to be positively responded to . . . As the vision and mission change in the years ahead, the Board of Directors and staff face the challenge of 'keeping true to the cause' for which the IDLA was created—a service to the children and school districts of Idaho" (Friend, 2007).

Links

http://www.idahodigitallearning.org/

http://www.facebook.com/pages/Boise-ID/Idaho-Digital-Learning-Academy/37117506539

http://twitter.com/idiglearning

http://idahodigitallearning.org/AboutUs.aspx

http://www.legislature.idaho.gov/idstat/Title33/T33CH55.htm

Louisiana Virtual School (LVS)

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The purpose of the Louisiana Department of Education's Louisiana Virtual School (LVS) is to improve student achievement and academic opportunities by providing students and teachers with increased access to required courses, a rich curriculum, enrichment programs, and professional development opportunities utilizing 21st century technology tools. The LVS employs proven distance learning techniques and pilots the use of new technologies for providing greater access to participating schools throughout every Louisiana school district/system.

Louisiana VIRTUAL SCHOOL

http://www.louisianavirtualschool.net/

Historical Perspective and General Overview

Establishment and Development

The Louisiana Department of Education (LDE), in partnership with the Louisiana School for Math, Science, and the Arts (LSMSA), provides Louisiana high school students access to standards-based high school courses delivered by Louisiana teachers through the Louisiana Virtual School. Students in LVS courses utilize the Web, e-mail, and other online and offline resources to complete a rich course of study in a multitude of courses.

The Louisiana Virtual School has evolved from previous state-funded distance learning initiatives. A three million dollar grant in 1990 established the beginning of the Statewide Distance Learning Network (SDLN). This network supported various distance learning models throughout the years that included:

1. Audiographic (Telelearning): In this audio and computer-based approach, classes were conducted on a statewide network of computers connected by standard telephone lines. Computers allowed teachers to send graphics and pictures to the students and served as an interactive chalkboard for the class. Each computer was wired with a microphone, which allowed vocal communication in the classroom and provided students an opportunity to ask questions and respond to the teacher at any time.

2. Satellite: In this video-based method, classes were conducted on television and delivered via satellite to participating students throughout the state. Many satellite courses later integrated their curriculum and converted classes into a Web-based delivery model.

3. Compressed Videoconferencing (CVC): This audio and video method allowed for activities to be conducted in a "real time" atmosphere. Two or more sites (conference rooms or classrooms) were connected via T1 or ISDN phone lines and everyone in the room could see and hear everything, which provided a "real-time" learning environment. Students and teachers used wall- or ceiling-mounted cameras, large-screen monitors, and "touch-to-talk" microphones within a CVC session. Compressed videoconferencing was interactive and provided a conduit for sharing information face-to-face through cameras. The CVC also provided endless enrichment opportunities, for credit courses, teacher in-service, staff development, and access to unlimited information resources to help schools meet specific academic needs. Typical activities included, but were not limited to, the following:

- Traditional classes meeting at a regularly scheduled time but serving students at different school sites using compressed videoconferencing

- Collaborative curriculum-related projects, meeting at irregular intervals during the school year, between and among students from different schools

- College-level course(s) offered by a university, for eligible high school students

- College-level course(s) offered by a university, for continuing education of teachers or staff

- Staff development or staff training activities offered by a local school district, Regional Service Center, or state-level initiative

By the year 2000, CVC costs and technical advances in the Internet allowed for a more cost-effective and, more importantly, instructionally effective, asynchronous, multimedia-rich curriculum to be delivered over the Web. In this approach, all course activity occurred online using course development and delivery software that integrated both Internet and Web-based resources. Students accessed their courses via computers and the Internet. Online class activity resembled face-to-face classes in many ways: a teacher typically organized the material, described the sequence, established the pace, determined the readings and other assignments, and facilitated learning. Online courses were asynchronous and place-independent; students lived in different cities or even different countries from one another and the instructor. Along with online course materials, text books and other online and offline resources were combined with large and small group discussions, and individual or group projects to create an engaging learning environment. Face-to-face meetings did not occur or were optional. In 2002, the LVS Program implemented the Algebra I Online project, which was a unique hybrid model designed to strategically target schools in need of Algebra I certified teachers and provide students with high-quality mathematics instruction.

The 2009–2010 school year marked the beginning of the tenth year of successful operation of the Louisiana Virtual School. The LVS course offerings include the Board of Elementary and Secondary Education (BESE) approved courses for the Tuition Opportunity Program for Students (TOPS), courses in career and technical education, credit recovery, dual-enrollment, Advanced Placement, university admissions requirements, and other general courses that meet graduation requirements and students' career path needs. These courses are taught by highly qualified instructors to more than 6,000 students. LVS courses are offered through multiple scheduling formats to meet the varying curriculum delivery schedules of Louisiana schools. Most LVS courses are offered as full-year courses following a traditional time schedule. However, some courses are offered as full-credit block courses or as half-credit semester courses. Courses offered during the summer session follow an eight-week timetable. The growth of the LVS has been remarkable over the last ten years (see Table 8-1).

Year	Students	Courses	Schools	Districts
2000–2001	130	12	20	9
2001–2002	340	20	40	26
2002–2003	1,263	24	97	51
2003–2004	2,189	28	145	55
2004–2005	2,228	30	175	60
2005–2006	2,800	30	200	60
2006–2007	4,233	36	229	62
2007–2008	4,800	52	240	62
2008–2009	6,030	60	304	63
2009–2010*	5,568	68	321	77

Table 8-1. Growth of LVS Enrollment, 2000–2010
*Through April 30, 2010.

Funding Sources

Hackberry is a very small school and a close-knit community. One 18-year-old senior student, who several thought would drop out of school completely, was failing his American History correspondence course. At midterm, the student transferred into the LVS American History course. Working two class periods during the remainder of the semester, coupled with the daily assistance of his online instructor, the student passed the course. He walked with his graduating class and was the first in his family to ever graduate high school. If it hadn't been for LVS, the student would never have graduated from high school.

— N. Luann Ballou, Hackberry High School

A Louisiana BESE Quality Support Fund 8(g) grant was used to fund the establishment of the Louisiana Virtual School and continues to be the primary funding for LVS. Additional funds from the state legislature have been allocated to establish and maintain the Algebra I Online program, as well as funds from High School Redesign, which support the Advanced Placement program.

The LVS developed its budget annually based on its spending in previous years. This method of budgeting was no longer adequate. Instead, the LVS needed to research and develop a sustained funding model with the actual resources required to operate the school effectively and use this model to

build its future budgets and organizational structure so that the operating budget and organization themselves grew as the level of services and resource requirements increased.

However, due to the impact of substantial state funding cuts, LVS could not continue to maintain the amount of course enrollments, nor could it expand and develop new and innovative courses needed to stay current with changes in student curriculum requirements. The 8(g) proposal submitted to BESE in April, 2010, proposed a cost recovery measure that would enable LVS to continue to provide students with access to courses that may otherwise be unavailable to them. Beginning with the 2010–2011 school year, the Louisiana Virtual School will be charging a Materials and Technology cost of $150 per student, per course enrollment, to be paid for by the student's school and/or Local Educational Authority (LEA).

Partnerships

The LVS directly or indirectly partners with several educational organizations in an effort to provide Louisiana's students with the best online learning experience possible.

- *Louisiana School for Math, Science, and the Arts: http://www.lsmsa.edu/* The LVS partners with the Louisiana School for Math, Science, and the Arts, which is a preeminent, state-supported, residential high school with competitive admissions for high-ability students. Established by the Louisiana State Legislature in 1982, LSMSA belongs to an expanding group of state-supported, residential high schools founded to serve the academic, artistic, and creative needs of gifted high-achieving students. Sister schools now exist in fourteen states, with others in various stages of planning and development. Through this partnership, the LVS and LSMSA work collaboratively to secure highly qualified instructional staff and manage the day-to-day operations of the LVS.

- *Education Development Center, Inc.:* EDC; *http://www.edc.org/* Over the last several years, the Louisiana Virtual School has worked closely with the EDC to train quality instructional staff. Through this collaborative effort, professional development opportunities for teachers interested in learning more about online course design and delivery have been offered. This component of the LVS provides an opportunity for teachers to get familiar with the rapidly expanding realm of online education. It also leads to the opportunity for Louisiana teachers to develop and/or teach online courses for the LVS.

  The EDC is a nonprofit education research and development organization. The Center for Online Professional Education (COPE)promotes student learning, improves teaching practices, and provides districts with capacity-building solutions through the use of innovative educational practices and technologies. COPE provides: (1) support to states and districts to help them develop effective policies and programs; (2) professional development programs, delivered online and face-to-face, for educators and administrators at the school, district, state, and university levels; (3) innovative curriculum materials and professional development resources; and (4) research into effective and innovative educational practices.

EDC delivers a course titled EdTech Leaders® Online Course: Instructing Virtual School Students. It is an eight-week, moderated online course that teaches the pedagogy, methodology, and facilitation methods necessary for effective instruction in the online environment. The course is a scheduled asynchronous course offered over the Internet.

■ *SREB Educational Technology Cooperative*: *http://www.sreb.org/* The SREB Educational Technology Cooperative, comprised of state higher education and K–12 coordinating and governing boards, focuses on ways to help state leaders create and expand effective uses of technology in schools and colleges, including online learning. This unique, multi-state cooperative represents more than 3,300 school districts and nearly 800 colleges and universities in the 16 SREB states. It monitors and reports on a wide array of educational technology topics and works with states to promote effective use of technology. As schools and colleges continue to utilize more technology in instruction and content delivery, it is increasingly important that connections between technology and higher student achievement are explored.

SREB recently published its 2009 Report on State Virtual Schools in SREB states. This document can be found at *http://publications.sreb.org/2009/2009_Report_State_Virtual_Schools.pdf*

■ *Louisiana Public Broadcasting* (LPB): *http://beta.lpb.org/index.php/site/* LPB is a state network of six noncommercial television stations licensed to the Louisiana Educational Television Authority (LETA), established in 1971 by the Louisiana Legislature. About 90 staff members at the LPB Telecommunications Center in Baton Rouge direct network program acquisition and scheduling, production, promotion, broadcast and technical operations, educational services, development, and revenue producing activities. During the years in which the LVS offered satellite course delivery, LPB maintained the satellite equipment at more than 100 schools. The LVS now utilizes the LPB CyberChannel resources. CyberChannel is LPB's online video and podcast channel that provides free access to the following:

■ Louisiana: The State We're In;

■ entire instructional courses from Annenberg Media in areas like French, Spanish, Economics, Art, and Algebra; and

■ exciting videos from national producers like National Geographic, NOVA, and Frontline.

In addition to these free resources, teachers from subscribing schools and districts can log in to United Streaming, a widely used portal of quality educational resources.

■ *University of Louisiana – Monroe*: *http://ulm.edu/* LVS Course Accessibility Project: The LVS, in partnership with the University of Louisiana Monroe, will continue to create course lessons and modules that are accessible for all learners with sensory disabilities. The project includes the creation of lessons and modules using a 508 compliant Web template, and the assurance that all LVS content is accessible, including all text, video, and audio files.

- *Louisiana State University – Baton Rouge (LSU): http://www.lsu.edu/* In a joint effort of the Louisiana Department of Education and Louisiana State University (LSU), the Louisiana Advanced Placement Academy works to improve the preparation for, and successful participation in, AP courses by students attending high-poverty middle and high schools from across Louisiana.

- *Northwestern State University: http://www.nsula.edu/* The Louisiana Virtual School, in collaboration with Northwestern State University, offers the following courses for dual credit:

  - English IV/English 1010

  - English Elective/English 1020

  - Advanced Math/Math 1020 (fall)/Math 1090 (spring)

  - Fine Arts Survey/Fine Arts 1040

  - American History/History 2020

  - Principles of Sociology/Sociology 1010

- *McNeese State University: http://www.mcneese.edu/* The Louisiana Virtual School, in collaboration with the College of Engineering and Engineering Technology at McNeese State University, offers Introduction to Engineering (Engineering 109 – Engineering Science and Computing), which is three lecture credits. The course provides an introduction to the techniques needed to successfully study engineering while in college and skills needed to effectively perform as a practicing engineer after graduation. Course design also addresses the functions of engineers, working as part of a team, and the use of computers in engineering problem-solving and design.

- *LSU – Eunice: http://lsue.edu/site.php* The Louisiana Virtual School, in collaboration with LSU – Eunice, offers an introductory dual-enrollment sociology course.

Accreditation and State Guidelines

The LVS is not a credit-awarding institution and therefore does not directly award credit. The LVS instructors assess student achievement and assign letter grades at mid-semester and at the end of the LVS session. In accordance with the LDE Bulletin 741, Distance Education Section §2395, "The receiving LEA shall award credit and grades for distance education courses assigned by the distance education provider with no deviations." Distance Education Standards have been developed and adopted by the Louisiana State Board of Elementary and Secondary Education (BESE), and serve as the LVS Program guidelines. These standards are designed to guide the development and implementation of a quality distance education program at the system and school levels.

Administration and Policy

Organizational Structure

The Louisiana Virtual School is administered by the State Department of Education's Division of Technology (DoT). The DoT's virtual school team consists of 8(g)-funded staff members, including a Program Administrator, Curriculum Coordinator, and Systems Programmer who provides technical oversight for the student and content management systems. In addition to 8(g)-funded staff, the LVS team consists of program and technical staff funded through other revenue sources. The Louisiana Virtual School staff has responsibility for overall administration of the program, with human resource contract management and course supply distribution administered by the Louisiana School for Math, Science, and the Arts (LSMSA) through an interagency transfer contract. Both the DoT and LSMSA play a role in the success of the Louisiana Virtual School. A concerted effort is in place to maintain adequate communication and shared decision making between key personnel at DoT and LSMSA involved in the LVS Program.

The Division of Technology is responsible for the general oversight and the development and determination of LVS policies. The LVS professional staff handles ongoing research and development, public relations, online instructor professional development, outreach to the districts and schools, and data analysis. The LVS technical staff is responsible for student and facilitator enrollment, student grade distribution, records management, and data collection.

The professional staff at the Louisiana School for Math, Science, and the Arts is responsible for the identification, distribution, and collection of course materials, contractual arrangements with full-time and adjunct LVS faculty, and the management of teacher records.

Collectively, the Louisiana Virtual School and the Louisiana School for Math, Science, and the Arts are responsible for the recruitment and selection of staff, the identification and evaluation of all LVS courses, and LVS student and facilitator technical support. Since its inception, the LVS staff has grown from one full-time program administrator and one student worker to an administrative staff of six full-time employees. Louisiana Department of Education's LVS administrative positions include:

- LVS Program Administrator

- LVS Teacher Development Coordinator

- LVS Algebra I Online Program Coordinator

- LVS Advanced Placement Program and Curriculum Coordinator

- LVS Programmer Analyst

- LVS Technical Support Specialist

Figure 8-1 describes the organizational structure within the Louisiana Department of Education.
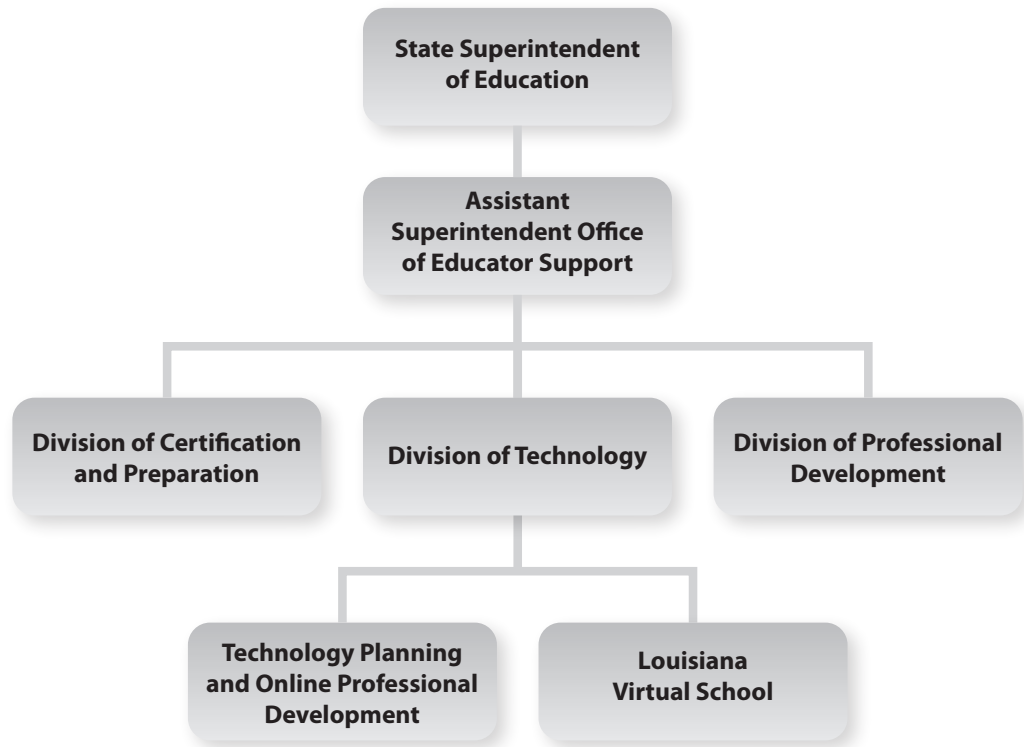
Figure 8-1. Louisiana Department of Education Organizational Structure

LVS Accountability

Annual external evaluations are conducted by a Board of Elementary and Secondary Education (BESE) evaluator. All evaluations have yielded positive results and include assessments of the following LVS components: student performance on course work, student evaluation of distance learning coursework, school assessment of distance learning experiences for its students, teacher assessment of distance learning experiences, and the annual summative evaluation. These evaluations serve to assist the LVS professional staff in the program's strategic planning centered around maintaining overall program quality, support of the State's High School Redesign efforts, and providing information on areas in need of expansion. This includes the development of additional curriculum, such as Advanced Placement courses, courses for credit recovery and remediation, and strategies for improving instruction.

Instructors

For the 2009–2010 school year, the LVS employed 16 full-time instructors and 83 adjunct/ special programs instructors. LVS faculty members are selected through an extensive statewide application process. The LVS teachers are then chosen for their experience and expertise in their subject area(s), experience with technology, and

a demonstrated interest and desire to utilize modern technologies and the online environment to provide the students of Louisiana with a quality education. LVS instructors must hold a valid Louisiana teaching license in the appropriate content area, or must be certified and employable by the Board of Directors at LSMSA.

LVS has given Winnfield Senior High School access to courses we cannot offer on campus due to certification requirements and limitations in teaching slots. Using the virtual school to fill in these gaps has been a wonderful opportunity for our students. As state requirements increase and teacher allocations decrease for my school, LVS will become even more important for our students, and we intend to increase our participation accordingly. Providing dual-credit opportunities and Advanced Placement courses is extremely beneficial to those students who make that choice. We are encouraging more students to take this route in order to increase the rigor and relevance of our curriculum for college-bound students. As students and parents become better informed about the opportunities of the virtual school, increased participation is expected.

— Jane Griffin, Ed. D., Principal, Winnfield Senior High School

All LVS online instructors must successfully complete one or more courses in online teaching methods and course development through the Educational Development Center (EDC). The LVS currently trains its potential online teachers by providing them an opportunity to participate in an eight-week course offered by the EDC called *Instructing Virtual School Courses*. In this course, potential online instructors learn and share ideas about effectively teaching online courses. Those who successfully complete this program are then placed with a mentor who is currently teaching a live LVS course. The mentors allow potential instructors access to and practice with LVS courses. A minimum of four times per school year, the LVS also offers professional development in emerging technologies and effective online methodologies for its online instructors.

LVS instructors are evaluated using the SREB Essential Principles of High-Quality Online Teaching: Guidelines for Evaluating K–12 Online Teachers. This evaluation tool outlines the unique skills required of online teachers and concludes with a checklist that can be used to help determine whether teachers adequately meet standards in several areas for successful and effective online instruction.

The Louisiana Virtual School utilizes the following Four-Phase Professional Development Induction program and requires mandatory professional development sessions for its instructors (see Table 8-2).

	Purpose	Requirements	Additional Resources and Support	Topics Covered
Phase I *Prospective Instructor*	Trains a pool of teachers for future growth Plays the role of an online teacher in training (OTT) serving in a mentee teacher assistant role	1 day face-to-face LVS informational training 8-week online course delivered by the Educational Development Center (EDC) 4-week Online Teacher in Training Boot Camp Mentored by an experienced master online teacher (MOT)	LVS Professional Development Staff Instructor-led Blackboard (Bb) moderated courses LVS Master Online Teachers	Developing a course syllabus Moderation techniques Creating online teacher resources Collaborating in an online environment Online teaching pedagogy Grade Level Expectations Instructor Roles and Responsibilities
Phase II *Induction Year*	Delivers one online course for Louisiana Virtual School Has an assigned, experienced mentor to assist when needed and evaluate instructional quality	1-day face-to-face meeting with mentor to prepare the course Online workshops throughout the school year End-of-Year face-to-face workshop	Bb community shell Face-to-face and online support via a mentor Regular online PD and meetings with LVS Professional Development Staff	Communication Online teaching pedagogy Digital copyright and curriculum Improving student performance
Phase III *Experienced Instructor*	May deliver more than one online course for the Louisiana Virtual School	Same as Phase II without 1-day face-to-face meeting	Same as Phase II	Same as Phase II
Phase IV *Master Online Teacher*	Mentor a new Online Teacher in Training (OTT) for the Louisiana Virtual School	One semester mentoring of an OTT in an LVS course Mentoring an Induction Year teacher Submission of monthly progress reports	Bb community Shell Online PD Face-to-face workshops	Mentoring in a face-to-face and online environment

Table 8-2. LVS Four-Phase Professional Development Induction Program

Facilitators

In addition to the LVS instructional staff, school-based facilitators are important members of the LVS staff and student support system. The LVS learning experience begins with the participating school's principal selecting a site facilitator who will best

serve the goals of the LVS. The site facilitator serves as the primary liaison between the school, students, online instructors, and LVS staff. This individual must hold a Louisiana Teaching License. In addition, the site facilitator must be physically present on the participating school's campus and be a member of the school staff. The site facilitator must have daily access to e-mail, Internet, a phone, and a fax machine. Schools maintain the option of designating alternate site facilitators when appropriate. However, the site facilitator of record is ultimately responsible for the student(s).

The site facilitator is responsible for student selection, registration, assessment monitoring, mentoring, and grade reporting—a role similar to the role of a guidance counselor in any school setting. In addition, the site facilitator is responsible for gathering the required data involved in the registration process, ensuring that students have access to LVS-provided e-mail accounts, and documenting the collection of each student's Academic Honesty Agreement and the Louisiana Virtual School Acceptable Use Contract. These documents were designed at the program's inception to ensure the academic integrity of the credit being applied by the participating schools. The facilitator accounts for and conveys the aforementioned information to the LVS administrative staff. At times, other tasks may be required, such as ensuring Web access, providing technical support, or proctoring an exam, as well as distributing materials and supplies and collecting them at the end of the semester.

Student Selection

The LVS is accessible to all Louisiana public school students, as well as to students at nonpublic schools that are in compliance with Brumfield vs. Dodd and have a sectarian status questionnaire on file with the BESE office.

The school site facilitator recruits and enrolls students in the LVS in cooperation with the school principal and guidance counselors. Students must have the qualifying prerequisites to take a course and should have interest in taking an online course. The students selected should be able to work independently and handle responsibility. Participation in the LVS requires students to be involved in independent and collaborative projects, as well as in research using word processing and Internet skills. Students must plan their work, be responsive to deadlines, and be conscientious in completing assigned tasks. An interview with the school site facilitator is a highly recommended component of the student selection process.

In an effort to assist facilitators with assessing a student's potential for success in the LVS, the following questions can be utilized. The site facilitator can determine whether the LVS will meet the student's needs based in part by his/her answers to these questions.

- Why are you taking an LVS course?

- What do you hope to gain from this course?

- How do you plan to manage your learning in your LVS course?

- Do you feel you are ready to work independently to manage your learning?

- Do you use good time management skills in your learning?

- How do you think this course will be different from your classroom courses?

- What additional resources, if any, do you think you will need to succeed in your LVS course?

- Do you plan to use a home computer to accomplish part of your LVS course work?

- Have you looked at the LVS Web site?

- What about LVS interests you the most?

Course Offerings

For the 2009–2010 school year, the LVS offered 68 courses, which include those courses necessary for the Tuition Opportunity Program for Students (TOPS), such as courses in fine arts, foreign languages, and technology. The LVS also offered twelve Advanced Placement courses, and nine dual-enrollment courses in conjunction with partnering universities. All courses are aligned with the Louisiana Content Standards, Benchmarks, and Grade Level Expectations. A full listing of LVS courses can be viewed at *http://louisianavirtualschool.net/courses.php*.

Included in the LVS course offerings is a unique hybrid learning model called the Algebra 1 Online Project. As opposed to the typical virtual school setting where individual learners from various locations access a course on their own schedule, the Algebra I Online project enrolls entire classrooms of students who are being taught by uncertified teachers who are working on their mathematics certification. Students benefit by having access to two teachers: a certified online instructor and an in-class teacher. In-class teachers are selected based on teaching credentials within the subject area. The online teacher, the teacher of record, guides the students through the online course activities, provides feedback and instruction through e-mail and discussion boards, and assesses the student work, as well as mentoring and providing support to the in-class teacher.

Professional development is an important component of the Algebra I Online Project. The in-class teachers are provided with face-to-face and online professional development during the school year to assist them with the facilitation of the students' in-class algebra learning activities and to build their capacity for strong mathematics instruction. In-class teachers new to the project complete a summer online course to receive an introduction to the course and hands-on training with the technology used by the Algebra I students (graphing calculators, CBLs, and digital tablets). Online instructors participate in a summer online professional development annually to assist them in course enhancements, and both online and in-class teachers participate in a two-day Summer Orientation.

Students work with technology on a daily basis and are provided daily access to an Internet-connected computer to complete course assignments on the school campus. In addition, students can log into the algebra course from home, the library, or other locations providing access to an Internet-connected computer.

There have been several publications that reference the success of the LVS Algebra I Project. The *Journal of Asynchronous Learning Networks* (JALN) published research that showed that the

LVS Algebra I model is a viable online model for providing teachers with effective authentic and embedded professional development that is relevant to their classroom experiences. This publication can be found in the September 2007, Volume 11, Issue Three. The International Society for Technology in Education (ISTE) also published an article in the *Journal of Research on Technology in Education* in the spring of 2007, Volume 39, Number Three, that detailed the success of the LVS Algebra I model as an effective tool for providing instruction.

Outcomes and Lessons Learned

As LVS course offerings and enrollment increased from 130 students in the first year of operation to more than 6,000 students in the tenth year of serving Louisiana's students, the LVS responded with augmented staffing. In 2009–2010, the LVS employed 16 full-time instructors, 70 adjunct or part-time instructors, 8 Algebra I instructors, and 5 Advanced Placement instructors. As further state curriculum requirements are mandated, the LVS will continue to grow, affording an increased number of students the opportunity to expand their learning through access to courses that would otherwise not be available to them at their schools in a face-to-face setting. These are some of the student outcomes.

- As of December 2009, approximately 78 percent of students who completed an LVS course passed with a grade of A, B, or C.

- During 2009, the LVS offered an eight-week summer school session. The LVS summer school was successful, with 60 percent of students served earning a grade of A, B, or C, and 74 percent of the students passing courses.

- As of April 30, 2010, LVS had 91 percent of its students enrolled in TOPS qualifying courses.

Accomplishments

- All LVS courses are developed and taught by Louisiana teachers and are aligned with the state content standards, benchmarks, and Grade Level Expectations. The state owns all of the courses that have been developed.

- All LVS instructors have content expertise and have successfully completed one or more courses in online teaching methods and course development. Some of the awards and credentials of LVS staff members include: National Board Certification, Louisiana Computer Using Educators Teacher of the Year, Louisiana Teacher of the Year State Finalist, Presidential Award of Excellence in Math and Science Teaching, and AP Redesign Panel.

- Online students have won recognition at state rallies: an online Latin student placed fifth at the State Literary Rally in Latin I; an online World History student placed fourth at the State Literary Rally; an online Environmental Science student placed fourth at the State Literary Rally, and another student took first place at the Computer Applications Future Business Leaders of America (FBLA) rally (qualified

for Nationals in Orlando). In 2009–2010, sixteen students placed in the top three at regional district rallies, and one student in Latin I placed first in the state.

Algebra I Online

Since decisions about curriculum and program effectiveness are data-driven, student outcomes in state testing are extremely important in determining the effectiveness of the Algebra I Online Program. The following statistics are based on the spring 2009 test results.

- Students in the Algebra I Online course show, on average, at least as much or more achievement gain than students in the comparison classrooms with a certified teacher.

- Ninety percent of grade 8 students in the Algebra I Online course scored Basic or above on the Louisiana LEAP 21 test, as compared to the statewide results of 59 percent.

- Thirty-five percent of grade 8 students in the Algebra I Online course scored Mastery or above on the LEAP 21 test, as compared to the statewide results of 12 percent.

- Seventy-two percent of grade 9 students in the Algebra I Online course scored Basic or above on the Louisiana iLEAP Math exam, as compared to the statewide results of 64 percent.

- Fifty-eight percent of all LVS Algebra I students scored Good or Excellent on the state Algebra I End of Course Exam, as compared to the statewide results of 39 percent.

- Teacher outcomes include the following:

  - Six in-class teachers have earned Secondary Mathematics certification

  - Ten in-class teachers have earned Middle School Mathematics certification

  - Two instructors earned National Board Certification in Mathematics

  - Two instructors earned a Masters degree in Teaching and Learning with Technology

Best Practices

School-Based

The school-based facilitator is an integral part of the student's success, but is also fundamental in ensuring the integrity of student assessments through consistent monitoring. As the LVS instructors assess student achievement and assign letter grades at mid-semester and at the end of the LVS semester, the site facilitator submits these grades for processing in accordance with the participating school's Pupil Progression policy. It is important that the site facilitator coordinates this procedure to ensure that the participating school properly awards credit for the LVS courses. LVS is not a credit-awarding institution and therefore does not directly award credit. A grade-in-progress is posted in the facilitator's account every third Monday, and facilitators are required to check these grades at each posting. This practice actively engages

the facilitators in student instruction, and not just as student monitors. It also facilitates communication from the school to the parents, as the site-based facilitator is aware of student progress in the course, and can intervene if the student is not performing up to expectations.

Teacher-Based

LVS teachers are supported through a full-time instructor support position based in the administrative office. In addition, a Curriculum Coordinator, who is an expert in instructional design, online pedagogy, and Louisiana content standards, works closely with the instructors to develop new courses and improve existing courses.

As part of the Educational Development Center's teacher training course, teacher candidates experience being students in an online environment, which is designed to help them understand what their own students will go through when they eventually become online LVS teachers. They create a course syllabus for an online course (or transform a current face-to-face syllabus to work in the online environment), practice moderation techniques by leading group discussions, create online teacher resources, and participate in collaborative activities. Experienced online instructors monitor their progress, grade assignments, and act as models and mentors.

Self-evaluations are used to help teachers reflect on their level of quality and how they can improve. Continuing professional development in online pedagogy is provided to LVS instructors based on these annual evaluations. For this reason, LVS teacher professional development is both individually guided and delivered to the entire cadre. The LVS also provides in-house whole-group professional development, delivered face-to-face by professional development leaders. Throughout the year, various online workshops are offered through the Division of Technology.

Student-Based

The LVS supports its students in a number of innovative ways. The partnership between the student, facilitator, instructor, and LVS administrative staff helps ensure that the unique needs of its online students are met. Because of the tremendous digital divide found in the State of Louisiana, the LVS provides access for all eligible students through their home-based school. With high-speed access available through the schools, LVS students are expected to access the course Web site daily to check their e-mail, read announcements and discussion boards, and access other course materials. If the student's only access to a computer is at the participating school and the student is absent or the participating school is not in session, the student works with the site facilitator and the LVS to make other arrangements for accessing LVS resources and completing assignments.

The student and on-site facilitator are in constant contact and together formulate a time management plan. This plan is customized to take into account the time required to complete assignments each day, the student's level of computer skills, the speed of the computer being used, the type of Internet connection provided, and the depth of the

assignment. At times, a student may need to schedule time outside of the participating school's hours to obtain access to LVS resources away from the participating school site.

David began my LVS French 1 Block class in August of 2005 from McDonogh 35 High School in New Orleans. We barely had time to get to know each other before we found ourselves evacuated out of state due to Hurricane Katrina. Over the course of the fall semester, David would be attending school in Georgia, Mississippi, then back in the New Orleans area, but unfortunately not McDonogh 35, which was badly damaged, along with his family's home. David logged into his LVS course as soon as he got settled in Georgia in early September and found out how to contact me in Alabama. Montgomery's Red Cross Center allowed me to fax pages of the textbook and workbook over to him (he had not evacuated with his schoolbooks!) and later I was able to scan pages to email to him. Attending four different schools in one semester, plus having lost one's family home and life as he knew it, barely had an effect on David's consistent high performance in the French class. Other than a couple of deadline extensions, David completed the Block course on time and with an "A." Thanks to the portability of the online courses provided by LVS, David was able to have at least one constant in his high school career that fateful fall, and he was then able to take the French 2 course the subsequent year in order to qualify for TOPS.

— Karen Nichols, LVS French Instructor

In order to assist students before the actual delivery of an LVS course, a number of support tools are available for them to assess their future success in an online delivered course. One such tool is the Student Self-Assessment for Successful Online Learning. This tool, developed by LVS instructors, provides students with a snapshot of the online experience they are contemplating. The assessment helps determine their fitness in the following areas: Learning and Communication Skills, Time Management Skills, and Technical Skills. While the instrument is not the sole determinant of LVS enrollment, it does provide valuable information for site-based facilitators when considering students for online courses. This tool can be found at *http://www.louisianavirtualschool.net/?faq.*

The LVS has also established appropriate guidelines (in combination with the local school districts) for exploring and using Internet resources to enhance learning and teaching activities, as well as keeping students safe in the online environment. The Louisiana Virtual School promotes compliance with the Children's Internet Protection Act (CIPA), and all student activities must meet the requirements and restrictions of their local school districts. However, the LVS encourages the use of Internet resources approved by the instructors for legitimate scientific and educational purposes.

In order to further protect the interests of the students, it is the policy of the Louisiana Virtual School that any use of the Internet that adversely affects its operation in pursuit of teaching and learning or jeopardizes its use or performance for other community members is prohibited and may result in loss of

Internet privileges, suspension of the student, or other appropriate disciplinary action. The Louisiana Virtual School does not condone the use of the Internet for any illegal or inappropriate activities and shall not be responsible for any such use by students. Parents shall be made aware that Internet usage is only partially controllable by supervision. Students' local schools may require direct supervision by a teacher or other professional designated by the teacher for Internet use during school hours. However, Louisiana Virtual School students may require Internet use in an unsupervised situation outside of school.

Support-Based

Parents are encouraged to be partners in the student's online education and are required to provide telephone numbers and an e-mail address, if available. When problems arise or concerns and accolades need to be shared, the online instructors are permitted to contact the parents directly or use the on-site facilitators as a conduit of contact. Each LVS teacher holds office hours and is available via e-mail or through a toll-free phone number. Additionally, the LVS has adopted WIMBA LIVE as a means of conducting real-time conferences between teachers and parents, as well as students and teachers.

On-site facilitators are trained annually in supporting the needs of the LVS students through mandatory face-to-face sessions held at the start of each school year. These sessions are held at sites across the state in order to meet the geographic challenges of the participating schools. Facilitators receive training in student identification, in-class strategies, database management, and LVS policies and procedures. All participants are given a current LVS Facilitator Guide that serves as a desktop reference in support of the LVS Web site.

Content and Curriculum-Based

All Louisiana Virtual School courses are evaluated by the Southwest Educational Development Laboratory (SEDL) using the SREB Essential Principles of Quality Checklist Guidelines for Web-based Courses for Middle and High School Students to ensure they meet those guidelines, as well as the Louisiana state content standards and benchmarks. This document is found at *http://publications.sreb.org/2008/08T01_SREB_SCORE_Assets.pdf*.

The Southern Regional Education Board's Educational Technology Cooperative has identified essential elements for Web-based courses for high school students. This set of basic assumptions provides a framework for consideration of essential instructional and managerial elements in the development and use of Web-based courses.

Course-Based

LVS courses are designed to provide ongoing feedback and assessment to the course participants. Each course uses a variety of formative and summative assessment strategies that vary depending not only on the content delivered, but also the individual needs of students. As long as the general scope, sequence, and course guidelines are maintained, LVS instructors are free to enhance courses as necessary and provide for teachable moments. By working closely with the on-site facilitators, instructors are able to constantly monitor both the academic and emotional welfare of the students.

When creating LVS courses, the instructional design team works to take into account the varying learning styles of the students. Individual courses may include some or all of the following technologies:

- Streaming video

- Embedded video

- Wimba Voice Boards (asynchronous)

- Wimba Live (synchronous)

- Microsoft Producer Virtual lectures

- Microsoft PowerPoint presentations

Technology-Based

LVS courses are delivered through the Blackboard Course Management System (CMS). The CMS is hosted by LVS servers located at an off-site, third-party provider. The use of a third-party provider has been vital in keeping the system consistently online and available to the students. The LVS is constantly upgrading its CMS as new versions are released, as well as the hardware to deliver the upgrades. The LVS provides two full-time technical support specialists to ensure that the needs of the students and instructors are continually met.

Future Plans

The LVS is positioned as a component of the state High School Redesign initiative. The primary purpose of the High School Redesign (HSR) initiative is to develop statewide policies and guiding principles that require all high schools to redesign their programs to create rigorous academic and career pathways. Through the High School Redesign initiative, the LDE is continuously striving to reduce dropout rates and increase graduation rates, increase student readiness and participation in postsecondary education, and increase student career readiness.

Since the implementation of the HSR initiative, LVS has increased high school graduation requirement course offerings, TOPS required courses, and access to career and technical courses. For the summer of 2010, a grant from the AT&T Foundation was secured to offer credit recovery courses, which target students who were unsuccessful in earning credit in core curriculum courses. LVS plans a year-long credit recovery program, which aligns with the HSR initiative of reducing student dropout rates and increasing the potential of the student graduating on time. For information regarding Louisiana's High School Redesign efforts, please visit *http://www.louisianahighschools.org/*.

Advanced Placement and Dual-Enrollment courses are also offered through LVS. Additional Advanced Placement and Dual-Enrollment courses will be added in the future. Plans are also continuing to increase availability of courses required for TOPS scholarships, and new Louisiana State Core Four Curriculum guidelines.

Links

The Louisiana Virtual School *http://www.louisianavirtualschool.net/*

LVS Academic Honesty Agreement: located on the LVS home page, under "LVS Information"

Student Skills Assessment *http://www.louisianavirtualschool.net/?faq#5*

PARTNER ORGANIZATIONS

Louisiana School for Math, Science, and the Arts *http://www.lsmsa.edu/*

Education Development Center, Inc. *http://www.edc.org/*

SREB Educational Technology Cooperative *http://www.sreb.org/*

University of Louisiana – Monroe *http://ulm.edu/*

Louisiana State University – Baton Rouge (LSU) *http://www.lsu.edu/*

Northwestern State University *http://www.nsula.edu/*

McNeese State University *http://mcneese.edu/*

LSU – Eunice *http://lsue.edu/site.php*

CHAPTER

9

The Michigan Virtual School

Daniel W. Schultz, Senior Development & Policy Advisor

Jamey Fitzpatrick, President & CEO,
Michigan Virtual University

The Michigan Virtual School® was created to serve as a cost-effective supplemental online education program, designed to work in partnership with Michigan's K–12 school districts. The mission of the organization, working in partnership with Michigan schools, is the commitment to provide cost-effective technology-based solutions that strengthen teaching and learning.

MICHIGAN
VIRTUAL
SCHOOL ®
— a division of MVU —

http://www.mivhs.org/

History and Overview

> *"Michigan is at the forefront of K–12 online education, led by the Michigan Virtual School and the Michigan legislature, which in 2006 passed a requirement that students have an "online learning experience" before graduating."*
>
> — Keeping Pace with K–12 Online Learning, 2009, Evergreen Consulting Associates

In 2000, the Michigan Legislature authorized the creation of the Michigan Virtual School (MVS®) through Public Act 230. The MVS works with middle and high schools throughout Michigan and several other states to provide online courses and instructional resources for students enrolled in urban, suburban, and rural school districts. The MVS also provides online courses for home-schooled students. Since its inception, the MVS has provided more than 75,000 course enrollments and served more than 157,000 students with an online ACT, SAT, PSAT, or Michigan assessment review tool. To date, the MVS has served over 1,000 public and private schools and families with an online course or test review tool. The MVS does not grant course credit or award diplomas independently, but works in partnership with local and intermediate school districts which award credit or diplomas. Most students in MVS courses access the courses from the school in which they are enrolled during a scheduled class period.

Global competition is having an impact on economic growth and job opportunities throughout the United States, but no state is more challenged by these developments than Michigan. As the home of the U.S. auto manufacturing industry, Michigan continues to experience serious fiscal challenges and a lagging economy. For many, the growing global economy offers great opportunities, but for others structural change and industry realignment are a real threat. In 2006, Michigan became the first state in the U.S. to require all students to successfully complete an online course or learning experience in order to graduate from high school. Enacted as part of a comprehensive education reform initiative, this online learning requirement was adopted because it is not only an effective way to learn, but also because online education and training are increasingly integral to many jobs.

Consistent with Public Act 230 of 2000, the goals of the MVS are:

■ Expand curricular offerings for high schools across the state;

■ Provide students with opportunities to develop new skills and competencies;

■ Provide opportunities for teachers to learn new skills and strategies;

■ Serve as a model for the use of interactive multimedia tools;

■ Offer courses and services to both traditional and nontraditional audiences;

■ Offer college-level equivalent courses and at-risk programs and services; and

- Accelerate the state's ability to respond to current and emerging educational demands.

A report to the Michigan Legislature (2008, 2009) is submitted annually that describes the schools served by the MVS, the online course titles that are available to Michigan schools, course enrollment, registration and completion rates by course, the overall completion rate percentage, grant expenditure information, and a discussion of unmet needs in the state that could be addressed by the MVS.

Administration and Policy

The MVS is the core division of the Michigan Virtual University® (MVU®), a private, nonprofit 501(c)(3) corporation created by the state of Michigan in 1998 to expand the use of online learning technologies and to accelerate change in public education. MVU also provides a broad array of online professional development opportunities for educators and school personnel through Michigan LearnPort®. An independent Board of Directors representing business, K–12, and higher education leaders and state government governs MVU. Michigan's State Superintendent of Public Instruction serves on the MVU Board.

Figure 9-1 highlights the organizational structure of the MVU, including its relationship with the Board of Directors and two external advisory groups that provide guidance on the operations of the MVS and Michigan LearnPort.
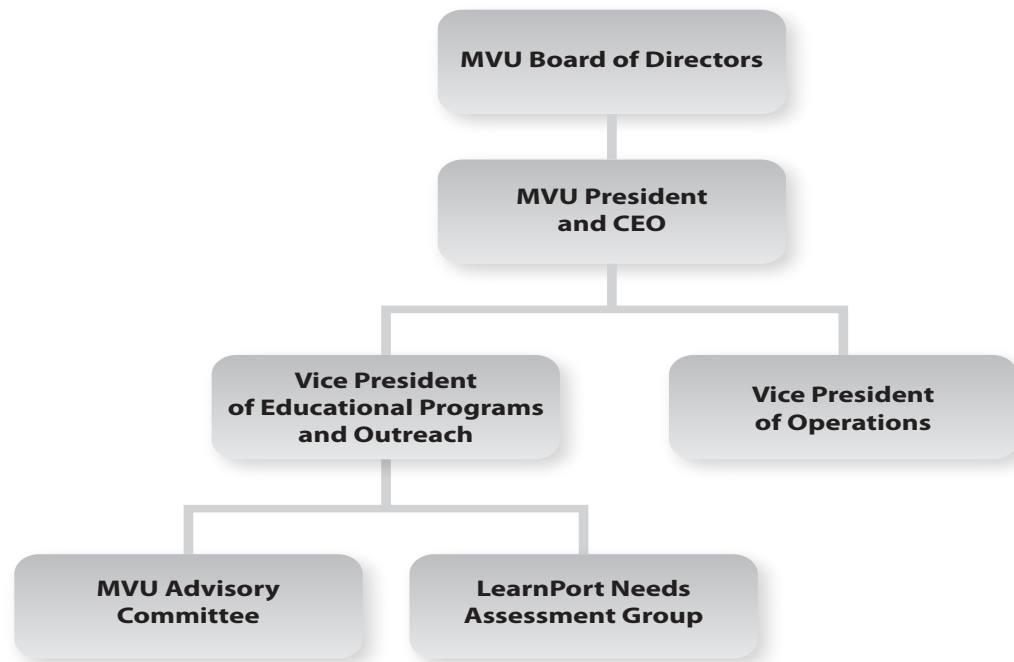
Figure 9-1. Michigan Virtual University Organizational Structure

Michigan Virtual School Role and Mission

It is the vision of MVU and MVS to provide leadership in Michigan to increase student and educator access to diverse technology-based educational tools and resources that promote 21st century learning skills for the general benefit of the K–12 community. The mission of the organization, working in partnership with Michigan schools, is the commitment to provide cost-effective technology-based solutions that strengthen teaching and learning. The MVS has positioned itself since 2000 as a supplemental online resource for rural, urban, and suburban middle and high schools. The MVS continues to explore opportunities to serve students in the later elementary grades with age-appropriate distributed learning programs and services. Over the past decade, the MVS has specifically targeted the following groups of students for online courses and resources:

- All public and private students in grades 6–12;

- Students who are being schooled at home;

- Adjudicated youth enrolled in institutional facility programs;

- Expelled and homebound students receiving supervised instructional support;

- Students from special populations including those with learning disabilities; and

- Academically talented students.

MVS works closely with the Michigan Department of Education (MDE) and several of the state's leading education organizations and associations to increase understanding and awareness of online learning and professional development opportunities. The growth and success of the MVS represents a collaborative effort involving state policy leaders, K–12 schools, representatives of key statewide professional education organizations, and individuals from business, industry, labor, and the nonprofit sectors. Since 2001, a broadly representative twenty-five-member Advisory Committee has provided guidance and support for the MVS and served as a communications link to Michigan's education community.

Commitment to Quality

In 2005, the MVS was awarded accreditation by the North Central Commission on Accreditation and School Improvement (NCA CASI) and the Commission on International and Trans-Regional Accreditation (CITA). CITA is affiliated with the North Central Association of Colleges and Schools and is the internationally recognized body that accredits distance education schools. Accreditation is a voluntary method of quality assurance granted to educational institutions upon successful completion of a lengthy evaluation process, including a self-study and an on-site evaluation by a team of experienced educators. Earning accreditation from an

organization like CITA means that the MVS online instructors, tools, services, and staff meet or exceed essential standards of educational quality. This comprehensive program evaluation process recognizes the efforts of the MVS to offer high-quality online instructional services.

Description of Online Courses and Resources

Public Acts 123 and 124 of 2006 require all Michigan students to successfully complete an online course or learning experience prior to graduation from high school. This policy was part of a comprehensive effort to revamp Michigan's high school graduation requirements. Another key component of this reform legislation is the requirement that students complete two years of a foreign language prior to graduation. The MVS has been asked by the Michigan Department of Education to develop online courses, resource materials, and professional development opportunities to support Michigan's rigorous new graduation requirements and to help meet the demand for courses and highly qualified instructors in the curriculum content areas where teacher shortages are predicted. These content areas include mathematics, science, English language arts, and world languages. The MVS currently offers more that 200 online course titles in content areas including mathematics, science, English language arts, social studies, world languages, visual and performing arts, physical education and health, and business and technology.

During 2008–2009, MVS had over 18,900 course enrollments (one student taking one course). Since 2005–2006 the MVS has experienced an annual enrollment growth rate of approximately 25 percent. Figure 9-2 depicts the MVS online course enrollments from 1999 to 2009, which to date exceed 75,000 total enrollments.
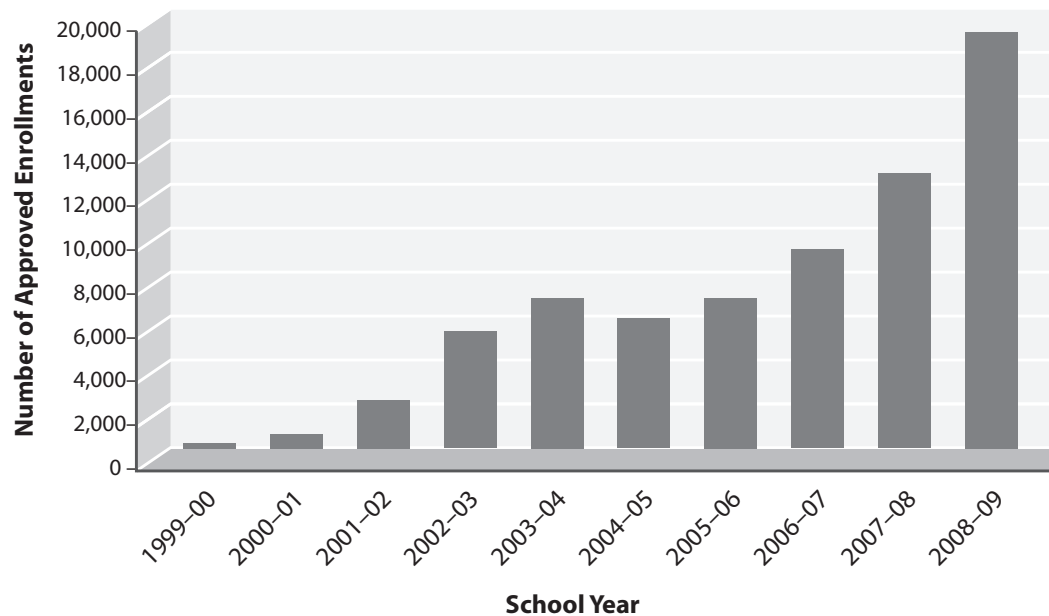
Figure 9-2. Michigan Virtual School Online Enrollments 1999–2009

During its first two years, most of the courses offered by the MVS were Advanced Placement (AP®) courses, which significantly increased the number of Michigan students who were able to take more rigorous coursework and earn college-level credit. The MVS course catalog continued to expand each year in response to growing demand from public and private schools for online core academic courses. Beginning in 2005–2006, MVS added a series of core courses for middle school students and a series of high school trimester courses. The trimester courses are designed to meet the needs of schools that have adopted the three 12-13-week terms per-year schedule, rather than the two 18-20-week term schedule.

The MVS currently offers several course styles designed to meet the needs of students, parents, and schools. Below are the courses and online resources currently available.

- Semester-paced Courses: Semester-paced online courses follow a "traditional" semester or trimester schedule, are highly interactive, and are taught by certified Michigan teachers who have specialized training in online instruction. Students have assignments with due dates, papers to write, tests and quizzes, individual and/or group projects, and extensive opportunities to work with peers and the instructor. These courses meet both the Michigan Merit Curriculum (MMC) and NCA standards.

- Flex Courses: These self-paced online courses offer greater flexibility and have a Michigan certified teacher guiding students through the course. Flex courses have an open enrollment date but a fixed end date. Students set their pace based on the amount of time they have from their enrollment until the course end date. Because of the flexible start dates, instructors set guidelines for completing assignments, encourage students and monitor their progress, grade coursework, and are available to students for questions and guidance. Flex courses are offered in various lengths, although the content is exactly the same whether it's a semester length or trimester-paced course.

- Advanced Placement Courses: The AP courses are taught by certified teachers with subject matter expertise and extra training in online instruction. Students are able to earn college credit while still in high school. These college-level courses include tutorials, multimedia simulations, and online discussions. The MVS AP courses all meet Michigan and NCA curriculum standards and are geared to prepare students to successfully complete College Board exams.

- Student Directed Courses: In response to requests from Michigan educators, the newest MVS option is the student-directed course. These courses offer a low-cost option for schools looking to provide their students with a high-quality experience combined with ease in scheduling and a self-paced approach. The interactive instruction is provided completely by the software that also supplies students with tools such as calculators and dictionaries. These courses require a mentor teacher who must be a certified Michigan teacher who is employed by the school district to provide instructional support.

- Test Tools: These online test preparation tools are a combined set of licensed software resources that help students prepare for the ACT, SAT, or PSAT college entrance exams and the Michigan Educational Assessment

Program (MEAP) exams. Over 150,000 students have used the no-cost online test review tools that were available through the MVU.

Year	Schools	Home Schools	Total
1999-00	18	0	18
2000-01	101	0	101
2001-02	194	0	194*
2002-03	247	22	269
2003-04	300	86	386
2004-05	326	148	474
2005-06	354	317	671
2006-07	379	658	1,037
2007-08	509	847	1,356
2008-09	577	946	1,523

Table 9-1. Michigan Virtual School, Unique Schools Served 1999–2008
* A limited number of home schools were served during 2001-02 but the data was not disaggregated.

Table 9-1 summarizes the growth in the number of schools served by the MVS since its inception. The MVS works with all urban, suburban, and rural school districts in Michigan and in numerous other states. The MVS estimates that it has enrolled students from approximately two-thirds of Michigan's 750 high schools. The schools referenced in Table 9-1 include public schools, public school academies, nonpublic schools, and home schools. The MVS made the decision during 2002–03 to begin recording family-initiated home school course enrollments in the category of unique schools served. Students who enroll in one or more of the MVS summer school courses or summer enrichment experiences, independent of their school of origin's traditional summer program, are recorded as home school students. With increased parent and student interest in online summer school courses, the number of MVS home school enrollments is also increasing.

Challenges and Lessons Learned

The MVU has successfully leveraged the power of the Internet to accelerate change in public education to promote 21st century learning skills for students and educators. As Michigan's state-sponsored virtual school, the MVS has worked since its inception to support more rigorous coursework for middle and high school students. In 2005 MVU was invited to serve on the State Superintendent's High School Graduation Task Force and to provide testimony before the Michigan Legislature in support of a proposed requirement for an online course or learning experience. As an advocate for this forward-looking policy, the MVU also provided technical support and guidance to the Department of Education on the development of the state's *Michigan Merit Curriculum Online Experience Guidelines* published in 2006.

The MVU is committed to providing innovative online education resources that expand educational opportunities for all students and educators in Michigan. The

section below describes ten specific policy challenges that are facing educators, the strategies taken by MVU to expand the use of online learning to support student achievement, and some of the lessons learned that may benefit others.

Challenge One: Help Schools Meet the Online Learning Requirement

"During a very hot summer two years ago, I traveled to China. After visiting Beijing, Xian, Shanghai, and Hong Kong my idle curiosity toward Chinese culture turned into an absolute fascination in all things Asian. So when the teacher who accompanied us presented this online class to me I was very excited! I had been unsuccessfully trying to teach myself Chinese for a semester, and had finally given it up as just another language I have no talent for. This online class has been a major success for me, actually teaching me the language in a way I can understand and remember."

— Jessica Ernst (Mandarin Chinese Student),
Howell High School, Howell, MI

Michigan's policy to require all students to successfully complete an online course or learning experience prior to graduation from high school was part of a comprehensive effort to revamp Michigan's high school graduation requirements. In an effort to assist schools in meeting these requirements, MVU and the Michigan Department of Education obtained funding in 2006 from Microsoft Corporation's U.S. Partners in Learning Program to create an online career development in a global economy course called CareerForward™. This course helps students understand how today's global economy is impacting their work lives and career opportunities. The course became available in February 2007 at no cost to all Michigan schools. Initially targeted at ninth grade students, this course has broad applicability for middle and high school students, and helps schools meet the state's online learning requirement. Another impetus for this course is to help students better understand the crucial importance of their education and to improve their motivation and choices in high school. The driving force behind this course is the importance of each student being as well prepared as possible to deal with the challenges and changing opportunities of the global economy, a world quite different from what earlier generations have known in Michigan.

Figure 9-3. CareerForward course

To enable the delivery of the online CareerForward course to students across the country, MVU also created a unique partnership with Blackboard™, Inc. MVU and Blackboard negotiated a special use agreement that will allow any Michigan school to access this course via MVU's licensed Blackboard (version 9.0 SP3) course management system. Complementing a base of career planning materials, the course includes personal budgeting, entrepreneurship, and the impact of the global economy. The core course is comprised of approximately twenty sessions, of which part is spent online and part engages each student in personal reflection, writing, and interacting with other students. There is considerable flexibility in how a school might decide to offer this course. As part of the CareerForward course sustainability plan, MVU is licensing the course to non-Michigan schools and to other states for a nominal fee.

Challenge Two: Expand World Language Course Opportunities

World language instruction can help prepare students to participate in the global economy and better understand other cultures. In addition to requiring an online learning experience prior to high school graduation, the Michigan State Board of Education expects all students, beginning with the graduating class of 2016, to complete two credits of a world language other than English prior to graduation, or demonstrate a two-year equivalent proficiency. In 2005 MVU developed a partnership with the Confucius Institute at Michigan State University (CI-MSU) to offer introductory online Mandarin Chinese courses for middle and high school students. The MVS was the first virtual school in the United States to offer an online Mandarin Chinese course, and the MVS course catalog now includes Chinese 1A, 1B, 2A, 2B, 3A, and 3B courses. To date, this successful partnership between MVS and the CI-MSU has registered nearly 1,400 online Chinese course enrollments for students in Michigan and in several other states. Students access their course assignments through a course management system maintained by MVU. Other innovative Web-based technology tools support student and instructor interaction, including audio and videoconferencing and voice recording. The MVS also offers multiple years of online language courses in Spanish, French, German, Japanese, and Latin. Enrollments in the MVS world language courses continue to

be an area of significant growth. The MVS online world language courses place a priority on students' developing an understanding of both language and culture. The courses use highly qualified instructors and employ a language-learning curriculum that focuses on enhancing basic communication skills and the development of cross-cultural understanding.

In 2009, two introductory online American Sign Language (ASL) courses were added to the MVS catalog, and many schools now award foreign language credit for ASL. These ASL courses (Level 1 and 2) focus on conversational ASL and make extensive use of digital video and Web collaborative tools to demonstrate the visual nature of signing. Students are expected to learn over 800 signs which, when used in combination, will allow them to carry on meaningful conversations in ASL.

Challenge Three: Make Online Courses Accessible to Students with Special Needs

Online courses can assist students with special needs achieve greater levels of academic success. The MVS is examining how its online courses can be enhanced to support students in the margins and to determine what kinds of accommodations can be made to better serve all students. Guided by effective teaching practices and the principles of Universal Design for Learning (UDL) promoted by nationally recognized organizations such as CAST (Center for Applied Special Technology), MVS is developing online course materials that increase accessibility to instruction for students with learning impairments or disabilities. Both federal and state laws require that these students not be left behind. Initial attention is being focused on enhancing aural and visual features and therefore providing multiple means of representation in MVS online courses, and expanding online professional development opportunities for educators.

Challenge Four: Expand Opportunities for Struggling Students

Since 2006, with grant funds provided by the Michigan Department of Education, the MVS has been able to provide over 10,000 student scholarships to support enrollments in its online courses. Many of these scholarships have been awarded during the summer semester to students who attend high-need schools and/or schools that have been identified for improvement or corrective action under the federal No Child Left Behind (NCLB) legislation. The availability of no-cost online student scholarships has encouraged schools that had not previously enrolled students in the MVS to begin to "test the water." By placing an emphasis on serving high-need schools and schools with higher proportions of low-achieving students, the MVS has been able to expand the number of students who have had an online learning experience, consistent with a requirement of the state's school reform legislation. Scholarships have been awarded to eligible schools and districts based on expressed interest and need and are provided for both middle and high school students. These scholarships cover the costs of enrolling students in a variety of MVS courses and summer enrichment experiences. While the majority of the scholarships have supported enrollments in the areas of mathematics, English language arts, social studies, and science, scholarships have been used to enroll students in over 190 unique courses offered by the MVS.

Challenge Five: Expand Summer Enrichment Experiences for Students

As a cost reduction strategy, a growing number of school districts have reduced or eliminated their traditional summer school programs and related services for students. The MVS Summer School courses are designed to fill an important need for schools and families by offering a cost-effective alternative for students wishing to extend and enrich their learning or to make-up a credit. The MVS often provides a summer instruction program where one might not otherwise exist. The summer semester is highly condensed and students must complete the coursework in a six-to-eight-week period. Time management is important and for students who are academically challenged or who are experiencing online learning for the first time, non-academic activities that compete for their time can be significant distractions. If these students don't have support at home or at school to reinforce the course assignments and instruction, academic success suffers. Summer School courses offer middle and high school students the option to explore elective areas in online environments and have intellectually engaging conversations online with like-minded students during the summer. Students who are struggling to stay on schedule to graduate are able to benefit from the opportunity to earn academic credits and avoid losing momentum over the summer. Students are also able to strengthen study habits and develop a deeper understanding of subject matter that is now required for high school graduation.

In 2007, MVS launched a new program to engage middle school students in mathematics and science content to be delivered online during two unique two-week summer enrichment experiences. These "Summer Camp" experiences were designed to assist middle school students in learning the key mathematics and science concepts and strategies that are essential to success in high school mathematics and science courses. The MVS developed a set of online interactive applications using licensed software that allow students to conduct virtual experiments and solve mathematics problems. The Summer Camp participants spend a total of twenty hours online, which meets Michigan's online learning requirement. Over 1,100 scholarships were distributed to enroll Michigan middle school students in the 2007 and 2008 Summer Camps. Based upon feedback and requests from school districts, MVS conducted a successful pilot study to expand the content into after-school programs offered online over a ten-week period during the regular school year. This served as another opportunity for at-risk students to learn, practice, and apply the key mathematics and science concepts and strategies that are essential to success in high school courses. By providing opportunities for high-need students to study some of the fundamental concepts that are part of the Michigan Merit Curriculum, these students will be better prepared for high school.

Challenge Six: Increase Awareness of the Benefits of Online Learning

"I was excited when I first logged in to start my class. This was a completely new experience and I had a good feeling about it. I was ecstatic when I learned that the class was self-paced. I'm a fan of working at my own leisure; just give me a deadline and I'll do my job. Another important skill that was learned in this class is how to understand the computer and be familiar with it. I'll be completely honest; I'm not a big computer person. Usually I find that this wonderful piece of technology is more of a pain to me than good. With an online class I learned to be more comfortable with the computer and be more confident with working online and using online tools. This is a wonderful opportunity to get acquainted with a tool that is used in every profession these days. I'm in more control of my learning; I have to take it upon myself and have to want to learn to be successful. I don't have a teacher that can tell me how to do it exactly and when to do it. I feel like more of myself is involved in this learning and that's why I like it. I feel more of a part of my own educational development."

— Lauren MacArthur (Psychology Student, Engadine Consolidated Schools, Engadine, MI

Since 2001, MVU has hosted six highly successful online learning conferences as an outreach strategy to increase awareness of the advantages and benefits of online learning. The conference agendas are designed to provide practical information on how schools can successfully implement online learning solutions for a wide range of students and to meet Michigan's expanded graduation requirements. Conference attendees include school administrators, school board members, teachers, mentors, academic researchers, policymakers, and students. Co-sponsors for the conferences have included the Michigan Department of Education, Microsoft, Blackboard, Hewlett Packard, and the iNACOL. The conference agendas have included topics ranging from national and international trends in online learning to local school implementation strategies. Links to the archived 2009 Symposium agenda and keynote presentations are available on the MVU Web site. At the 2008 Online Solutions to Everyday Challenges Symposium, MVU released *The Michigan Online Learning Report*, authored by virtual learning expert and consultant John Watson.

Challenge Seven: Create New Online Standards-Based Courses

Education leaders and policy makers have expressed concern that Public Acts 123 and 124 of 2006 will produce critical shortages of highly qualified teachers in core curriculum content areas. To assist the K–12 community in meeting the Michigan Merit Curriculum requirements, the MVS has developed or redesigned thirty-six online courses. MVU assembled a team of highly respected project consultants and course content specialists to complete this course development effort. The project consultants were experienced project managers and educators, and the course content specialists were selected on the

basis of their subject matter expertise, extensive experience as online instructors, and previous success developing courses in the Blackboard environment. MVS focused this course development work in the areas of mathematics, science, English language arts, and social studies to support the state adopted high school content expectations (HSCEs). The implementation of the MVS course redesign effort has involved a combination of:

- Intensive study of the intent of the new state content expectations done in conjunction with parallel work on professional development courses in all the major content areas, including discussions with external subject matter experts, such as the state's content area consultants and individuals involved with the creation of the HSCEs;

- Identifying an appropriate e-text and other media-rich content for each course;

- Reviewing the selected e-text and comparing the coverage with the content expectations to provide a gap analysis;

- Based on the gap analysis, establishing what additional materials are needed; and

- Structuring the content according to sound instructional design principles developed by recognized international experts to ensure that all students are motivated and provided meaningful opportunities to apply and integrate course content.

Throughout this process, emphasis was placed on using design strategies and instructional resources that appeal to multiple learning styles, as the Michigan Merit Curriculum requires students to take courses that many may not have previously taken. For example, as MVS acquires the license and use rights for new multimedia content, these resources have been incorporated into both new and existing courses. Technical support is provided to convert and enhance course content, add Flash® animation, and develop strategies to utilize commercial Web-based curriculum resources in these courses. In 2007, the International Association for K–12 Online Learning (iNACOL) published its *National Standards for Online Courses;* the MVS has adopted these standards and uses them in the development of its courses.

Challenge Eight: Meet the Demand for Additional Online Instructors

Online K–12 education is growing so rapidly that concerns have been raised over a possible shortage of highly qualified online teachers in key curriculum content areas. Since its inception in 2000, the MVS has trained over 550 certified Michigan educators to teach online courses. MVU has developed an Online Teaching and Learning Mastery Program that prepares educators to teach in an online environment using Web-based tools, multimedia technology, and online communications. To assist the K–12 community in meeting the state's high school graduation requirements, the MVS annually trains teachers to become new online instructors or to facilitate after-school or summer enrichment programs. Once trained, these online educators will help meet the demand for instructors in the content areas of mathematics, science, social studies, and in world languages and advanced placement (AP) courses where shortages of highly qualified teachers are predicted. Special efforts are made to recruit teachers from high-need schools and rural areas to become online instructors.

Challenge Nine: Provide Continuing Education for Online Instructors

"Online learning allows every student to learn. The online setting breaks down barriers that exist in the face-to-face classroom. It provides the opportunity for students to take any class imaginable and succeed because of the plethora of available resources. Students are able to have a highly qualified teacher who serves as a facilitator, and engage in individual and group collaboration. Technology is changing the way students learn. As educators we must embrace this change to meet the needs of our learners. Students are able to store and retrieve information quickly which means that we must nurture students' critical thinking and collaboration skills so that they are able to make sense of the amount of available information. Online learning requires skills that allow learners to be able to make meaningful connections, seek out information, monitor ones' own progress, and make connections with others. Teacher presence in the classroom further develops students' skills, thinking, and collaboration."

— Melanie Laber, MVS Mathematics Instructor, 2010 Michigan Online Teacher of the Year

New technology, changing state policy, and research studies on effective teaching and learning challenge the MVS to provide ongoing training opportunities for its online instructors and staff. An innovative professional development opportunity was created in 2007 through an arrangement between MVU and the College of Education at Michigan State University (MSU). A special three-credit online course, Teaching K–12 Students Online, was offered for eighteen experienced MVS instructors and staff members. This course was designed to build upon the exceptional experiences of the MVS teachers, who are recognized as pioneers in online learning in Michigan. These instructors have a wealth of expertise to share with each other and with the broader K–12 education community. This course was designed to draw upon the participants' online teaching experiences, including Web-based mini-cases of MVS teachers showcasing and discussing their online teaching. This course has now been added to the MSU College of Education's catalog as a three-credit graduate course and is part of the Masters in Educational Technology Program. The course is also being offered online by MSU to help meet Michigan's requirement for an Education Technology Endorsement for certified teachers. The MVS is encouraging its online instructors to consider enrolling in a new MSU College of Education Hybrid Ph.D. Degree in Educational Psychology and Educational Technology.

Challenge Ten: Encourage Student Career Planning and Development

In preparing youth to participate in the global economy, it is often a challenge for students to see how their school's curriculum and required courses relate to them—who they are, what they want, and where they are going. In addition, many educators struggle to

make connections between school and the world of work. Public Act No. 123 of 2006 requires Michigan school districts to ensure that each student prepares an educational development plan (EDP) before he or she begins high school. The MVS provides an extensive array of online career development resources for students and educators to support this requirement. During 2005, with funds provided by Microsoft Corporation's U.S. Partners in Learning Program, MVU was able to significantly upgrade and enhance its proprietary online career services planning tool myDreamExplorer™. The state of Michigan has provided funding for MVU to establish a statewide license for this career planning resource for all Michigan elementary, middle, and high school buildings and students at no cost. This enhanced online career exploration, planning, and development tool contains valuable resources for students, parents, counselors, teachers, and administrators.

In an interactive and motivational manner, the career planning Web site and related materials enable students to visualize their future. Career content and resources for parents, teachers, counselors, and school administrators are also available. Through this program, MVS helps K–12 students gain career and life management skills, while developing customized online career and education plans. The myDreamExplorer resource materials support and reinforce the school's counseling and guidance functions by helping students prepare their own EDPs. This planning process not only helps motivate students to stay in school and pursue some form of post-secondary education or training, but also encourages family involvement in the setting and achievement of academic, career, and personal goals.

Best Practices

The MVS recognizes that not all students have the same access to online learning opportunities. While many Michigan schools have embraced online learning and have found innovative ways for students to experience Web-based courses, some educators and education leaders have been resistant to adopt these innovative new teaching and learning strategies. Michigan's online learning requirement provides new incentives and opportunities for schools to adopt virtual learning as they prepare students to be part of the 21st century workforce.

As is the case in other states, Michigan has made significant investments in network infrastructure, connectivity and security, computer hardware, software applications, and professional development for educators over the past two decades. The MVS continues to work in partnership with school districts and state government to capitalize on these multi-billion dollar investments. Since its inception, MVU has received generous state, federal, and private sector grant support to establish the MVS and develop online content. As a result of this funding, MVS courses and services have been offered to Michigan schools at reduced rates that are comparable to the rates charged by other state-sponsored virtual schools throughout the United States. The MVS is constantly looking at cost containment strategies and whenever possible, provides online courses and resources at no cost to schools. Private sector support is a strategy that has helped MVS enhance its infrastructure, develop new courses, and acquire or license online content to continually improve quality and customer service. Other strategies or best practices that are designed to support student success, expand

the use of data for decision making, implement a new model for delivering professional development, and prepare the workforce for the future are described in this section.

Using Onsite Mentors to Support Student Learning

The introduction of MVS courses has created new opportunities for certified teachers at the local level to work with students as mentors and provide a range of essential on-site support activities for online learners. On-site mentors provide encouragement and motivation for students as they progress with their online class. They are the key individuals that serve as a contact between the school and the staff at MVS and as a direct contact with the MVS instructors. Mentors are responsible for overseeing the student's day-to-day work and may proctor tests in the local school. Mentors also compute the MVS percentage of course completion to an actual grade for the student's permanent record. The assignment of mentors and ensuring that students have access to computers and the Internet are among the essential arrangements that need to be made at the building level for students to be successful online learners. Each year the MVS conducts a series of training workshops for school mentors and an online *Mentoring Matters: A Guide to Student Success* (2010) has been created as a resource for educators and parents.

Making Effective Use of Data and Evaluation Studies

MVU continues to work with nationally recognized experts to conduct research involving its courses and evaluate data to help support student success in online courses. These efforts include studies that focus on improving student achievement in online courses, exploration of the uses of the Blackboard course management system (CMS), and the development of appropriate intervention strategies to improve performance levels. The MVS is also interested in investigating the impact of parents, alumni, and school personnel in the success of online learning. This research will help inform the work of education leaders and policymakers.

In 2005, MVS received a grant from the North Central Regional Educational Laboratory (NCREL) to engage independent expertise to analyze existing MVS demographic and enrollment data, and develop tools that allow greater access to data for decision making on courses, instructors, and scheduling. MVS is committed to building upon the analyses and recommendations in the NCREL study, *Toward a Deeper Understanding of Student Performance in Virtual High School Courses: Using Quantitative Analyses and Data Visualization to Inform Decision Making* (Dickson, 2005). This study found that the data on student activity and performance available in Blackboard offered opportunities for providing motivational and informational feedback to students and teachers. It noted that MVS courses are ideal for studying ways of using real-time data to improve student learning. Within the Blackboard CMS, students are "coding their own data" on a variety of factors, including their performance on quizzes and tests, participation in assigned activities and discussions, and time and level of course engagement. Unlike traditional face-to-face classrooms, these data are available as a natural part of the teaching and learning process. What is needed is a deeper understanding of how to analyze and display these data for the student, teacher, school administrator, and other stakeholders to improve the success of the student. Equally important, this data handling needs to be done in nearly "real time" if the students themselves are to benefit from the data

displays. Unlike educational research that seeks relationships between data and student success after a course is complete, online courses present the opportunity to explore how data can be used to increase the success of students while the course is still going on.

> *"I wanted to share my experience with you concerning the (virtual) Middle School Science Camp. At first my son was hesitant to jump in. I found the links for the software and loaded it. (Soon) I found my son working the interactives. He even went and got a new notebook so he could give detail about his experience 'around the campfire.' I kept hearing him say 'Wow' and 'Thanks, Mom, this is the greatest.' He will be in the 8th grade this year and will take the SAT in the fall. He said he'll use the science camp information to study for it. I wanted you to know what a difference this class has made in our summer. This camp has helped his self-esteem and got him doing something I could never get him to do during the school year, to take good notes and keep them organized. Thank you, thank you so very much for the opportunity. I feel like a mother with a starving child who has been invited to a lifelong banquet of the most exquisite foods."*

— With Greatest Appreciation,
Katrina LeFlore (Mother),
Christopher LeFlore (son), Detroit, MI

In 2007, MVU formalized a partnership relationship to participate in a national Virtual Schools Clearinghouse (VSC) project funded by the AT&T Foundation. This project has created a multi-state database to collect student-, teacher-, and course-related data from participating state-sponsored virtual schools. Participation in this project has enabled MVS to utilize research and evaluation tools and services created by the project to compare its data with student, teacher, and course information collected by other virtual schools involved in the project. This effort draws on existing research and current virtual school practice to support school improvement priorities.

Creating an Online Professional Development Delivery System

Michigan has been among the leading states in creating online professional development opportunities for school administrators, classroom teachers, and other school support personnel. The State School Aid Act of 2003 (Section 98 of Public Act 158 of 2003, as amended) provided initial funding and direction to the MVU and the Michigan Department of Education to "develop and assist districts in the development and use of proven, innovative strategies to deliver intensive professional development programs that are both cost-effective and easily accessible . . ." In response, the Department of Education and MVU have jointly created Michigan LearnPort, a statewide Web-based professional development system for Michigan educators. Since 2003, Michigan LearnPort has evolved into a comprehensive online portal that:

- Delivers quality online professional development to the desktop, including content developed by a variety of content providers;

- Fosters teachers' communication with mentors, principals, and other teachers within their school or across the state who have common interests;

- Enables teachers and administrators to plan, earn, and keep track of professional development experiences; and

- Assists in aligning teacher development plans to district and building improvement goals.

Michigan LearnPort was created as an enhanced statewide delivery system in response to a changing education policy environment. In addition to significantly expanding high-quality professional development opportunities using online tools and resources, this initiative is designed to help Michigan school districts meet the requirements of the federal legislation for highly qualified teachers in all Michigan classrooms. Michigan LearnPort has become a robust online support system that allows individual educators to participate in multiple learning communities, create comprehensive professional learning plans, and access a variety of high-quality content and materials that assist them in meeting their professional education goals. As of early 2010, over 56,000 Michigan educators are using Michigan LearnPort to support their professional growth and development. Michigan LearnPort continues to develop new courses, and has adopted a new learning management system (LMS) to keep pace with Web 2.0 enhancements, such as blogging and wiki capabilities and collaboration features. This multi-year project is successfully designing and building courses, acquiring content, conducting workshops, and providing technical assistance and user support for the benefit of Michigan's entire K–12 education community.

Supporting the Michigan Virtual School Learning Community

Each August, MVU convenes a two-day professional development conference which brings the MVS online instructors, staff, and other team members together in a face-to-face setting to discuss the challenges and benefits of online instruction and the changing expectations facing Michigan's schools. The conference agenda includes presentations on new course development plans and course management system upgrades, and provides opportunities to discuss the use of new technologies in MVS courses, such as MP3 players and podcasts, licensed math and science simulations, and presentations on voice-over-Internet-protocols (VOIP). Other presentations have focused on new copyright and intellectual property laws and briefings by representatives from the Michigan State Police and the Michigan Attorney General's office on a recent state-sponsored Cyber Safety initiative. The MVS instructors and staff have opportunities to discuss the challenges faced in online teaching and how online instruction differs from teaching in traditional classroom settings. This annual conference serves as a strategy to build organizational capacity and to enhance communications. Michigan's Superintendent of Public Instruction has provided keynote remarks at these summer conferences.

Developing Blended Instruction Models

With the implementation of the state's online learning requirement, several school districts have approached MVU to explore the implementation of instructional strategies that blend face-to-face classroom activities with innovative online experiences. This approach reinforces

the important role of the local classroom teacher and uses online learning to expand or augment that role. An example of this blended instruction model is the training and support provided for local educators to implement the MVS online CareerForward course. As part of the statewide rollout effort, MVU convened a series of instructor training sessions held around the state using a new online self-paced tutorial available through the Michigan LearnPort portal. MVS does not provide an instructor for the CareerForward course, but works with regional technology experts to help prepare online instructors to teach the course in school settings. Each building or district may use this course in ways that fit the school's curriculum, with a local teacher in charge. The content may be incorporated within an existing course or used as the basis for a new semester-length course. It may also be offered after school for informal learning, such as in a student club setting with minimal or no teacher involvement. This flexibility makes it possible for each school to adjust the delivery to best suit local needs and interests.

For communities that are struggling with over-crowded schools and a shortage of classroom space, a blended instruction approach can provide more scheduling flexibility and reduce the need to make major long-term investments in new buildings. Another effective application of blended instruction is the use of specific subsets of full-length MVS courses to give students access to different and more individualized learning experiences. MVS is currently working with several school districts that have asked for assistance in developing blended instruction models to address local needs, and these requests are expected to increase over the next three to five years.

New Michigan Virtual School Initiatives

The MVU and MVS continue to support the state and national policy goals of harnessing the power of the Internet to improve teaching and learning, and expand instructional opportunities for all students and educators. The MVS will continue to expand the range of courses available to students beyond what a single school can offer, especially in rural and inner-city schools, and to expand educational opportunities using innovative technology tools. The current MVS work plan includes several new challenges.

Student-Based Research Opportunities

In 2007, the MVS initiated a pilot Online Scholars Community Advanced Research (OSCAR) course for high school students who want an opportunity to conduct in-depth research on diverse topics outside of the constraints of a traditional school setting. Employing 21st century collaborative and virtual teaming skills, OSCAR participants use online tools and the Internet to work in research teams of two or four students from different schools around Michigan. Research teams develop topics of investigation based on student interests. The learning experience teaches students to communicate effectively online, collaborate as a productive member of a virtual research team, engage in a variety of current research methodologies, create an authentic research product, present research findings to various audiences using multimedia tools, and contribute to scholarly communities.

Developing Global Partnerships

As part of a new global partnership initiative, the MVS is developing a virtual multi-national classroom, where students from different countries can enroll in an online course and work in mixed teams to explore the course content from multiple perspectives. Such global or international partnerships can provide rich opportunities for students, teachers, and schools to create and build connections with others from around the globe. Partnerships can initiate classroom discussion and project-based activities around culture, diversity, economics, healthcare, the environment, and other themes. Through online communication tools and resources, students and educators can exchange ideas, share experiences, and develop new skills. Global partnerships can also lead to student and faculty exchanges, study abroad programs, or opportunities to participate on multi-national research teams beyond the traditional school setting. These experiences can expand curricular offerings, and enable students to personalize their learning and prepare to become global citizens.

State Policy Changes for Pupil Accounting

"Michigan Virtual School has helped Schoolcraft High School become a better institution of learning. Before our partnership with MVS, Schoolcraft High School had no viable credit recovery program. The MVS Flex courses provide us with a viable program, helping shrink our drop-out rate and allowing many students who had fallen behind to catch up and graduate with their classmates on time. Before MVS, students wanting to take Advanced Placement (AP) classes had to be bused to a neighboring larger school in order to do so. Since the inception of MVS at Schoolcraft, students can stay on campus and take a variety of AP classes. Using MVS, the number of students taking AP classes has increased by a factor of four, and they score better on the AP testing than they did under the previous system."

— John Kolassa, Principal, Schoolcraft High School, Schoolcraft, MI

In 2008, Michigan's State Superintendent of Public Instruction implemented a new policy that allows school districts to seek a waiver of the state's pupil accounting rules to permit eligible full-time students to take all of their coursework online. Initially, twenty-one school districts were approved to implement this innovative "seat-time waiver." Over time and in response to the high volume of waiver requests, one of the previously approved districts was authorized by the state to include other districts as partners in their waiver, provided that the required Michigan Department of Education policies and procedures are followed. MVS is working with schools and districts across the state as they utilize this waiver provision to expand the use of online courses to address specific student and school priorities.

End-of-Course Assessments as Competency-Based Tools

MVS is exploring the effectiveness of end-of-course assessment tools as a means to gauge student mastery of subject matter that may be required for high school graduation. In 2009, MVU worked with a large regional school

district to pilot an online program that gave eligible middle and high school students an opportunity to test-out of their required Algebra 1A and 1B courses. Students who enrolled in the pilot program received access to an Algebra e-textbook, the course syllabus, and a list of state approved mathematics content expectations with supporting materials to use to prepare for the assessment. In addition, the MVS is investigating the development of a student profiling capability that will assist a school in identifying students' readiness levels to meet required content expectations. The purpose of this exploratory work is to help establish the value of these end-of-course assessments to schools and determine what long-term funding may be required to scale and sustain this service.

Use of Instructional Games and Simulations

MVS continues to explore and evaluate the use of new and innovative technologies for the delivery of content and courses. Those new tools include Web 2.0 technologies and social networking software, as well as games and simulations. Instructional gaming, in particular, has been cited as an important new medium for teaching and learning. Through commercial games, educational games, and game design, psychologists and educators are discovering affective cognitive and social outcomes through online computer and console-based games. MVS is partnering with leading researchers to investigate the use of online games and simulations in online K–12 courses. One example is a new introductory online Mandarin Chinese course using the Second Life Environment that has been developed through the MVS partnership with the Confucius Institute at MSU. To date, two introductory Chinese Second Life courses have been offered for community college students.

Future Plans

In 2008, the Michigan Virtual University celebrated its ten-year anniversary as a nonprofit 501(c)(3) organization created to serve as a champion for online learning. Today, even more powerful and affordable communication technologies have greatly expanded the range of online courses and learning opportunities available beyond what a single school can offer. As MVU looks to the future, there are five core strategic initiatives guiding the work of the organization.

- First, the adoption of more rigorous Michigan high school graduation requirements in 2006 has raised expectations for the continued development of specific online support mechanisms and targeted solutions for K–12 schools. These include online courses, Web-based professional development opportunities, and online tools to support career and workforce development.

- Next, in the area of policy development, MVU continues to work with state education leaders and policymakers to encourage support for policies and strategies that reinforce and increase Internet-based education for the K–12 community. MVU is viewed as the leading online learning organization in the state and is working with the International Association for K–12 Online Learning (iNACOL) to support strategic national goals and priorities.

- A third area of focus for MVU is to actively develop strategic partnerships with statewide education organizations, corporations, nonprofit organizations, and foundations to support innovative virtual learning solutions. Partnerships with leading public and private sector organizations and universities enables MVU to secure the financial support and resources necessary to develop high-quality online instructional content and services for the K–12 community.

- To help Michigan citizens compete in the global economy, MVU continues to expand online world language and cultural learning opportunities for K–12 students and educators. Working with international educators, schools, and universities in other countries, MVU is actively seeking to "globalize" virtual learning environments to help give Michigan's students and educators a competitive advantage.

- A fifth strategic initiative is to develop new online learning programs and services that make effective use of Web 2.0 technologies and expand the use social networking tools, computer simulations, and online instructional games. As students "play" problem-based online games and simulations, they have new opportunities to interact with their instructors and fellow students as they complete their assigned course work.

The growth of online learning for K–12 students and adult learners continues to transform traditional models of teaching and learning. The MVU and MVS are committed to working in partnership with urban, suburban, and rural school districts to provide high-quality online courses and instructional resources for students and educators. The MVS is also pleased to be recognized as one of the leading virtual schools in the United States.

Links

CareerForward *http://careerforward.org*

Center for Applied Special Technology (CAST) *http://www.cast.org/*

Confucius Institute at Michigan State University *http://www.experiencechinese.com/*

International Association for K–12 Online Learning (iNACOL) *http://www.inacol.org/*

Michigan Department of Education *http://www.michigan.gov/mde*

Michigan LearnPort *http://www.learnport.org/*

Michigan Virtual University *http://www.mivu.org/*

myDreamExplorer *https://www.mydreamexplorer.org/*

Virtual Schools Clearinghouse *http://www.vsclearinghouse.com/*

Missouri's Virtual Instructional Program (MoVIP)

Dr. Curt Fuchs, Director of MOVIP

The Missouri Virtual Instruction Program (MoVIP) provides affordable, high-quality, standards-based supplemental and full-time online coursework for Missouri schools needing credit retrieval, advanced courses, curriculum enhancements, and/or to resolve scheduling conflicts.

http://www.dese.mo.gov/movip/

Historical Perspective and General Overview

Establishment of School and Beginning Stages of Development

As with most legislative activity, it took several years for the concept of virtual education to take root to become law. During the 2006 Missouri legislative session, however, Senate Bill 912 moved rapidly toward passage, creating Missouri's first statewide virtual school. Missouri prides itself on having one of the shortest virtual education laws in the country—only sixty lines. Missouri Revised Statutes Section 161.670: *www.moga.mo.gov/statutues/C100-199/1610000670.HTM*.

Spearheaded by Representative Brian Baker (R-Belton), the legislation allowed one year of planning before the launch. Within a month of the bill's passage, a director of virtual education was hired by the Missouri Department of Elementary and Secondary Education (DESE). The learning curve was significant, but having other state programs as models proved extremely helpful in molding the various pieces of the program into reality. Vendor visits, conference calls with other state directors, and meetings with stakeholders across the state consumed the initial months of planning.

The biggest challenge was the development of the Request for Proposals (RFP) for the selection of the vendors that would provide the actual services for students. Because the legislature authorized funding for only one director and one administrative assistant to manage the program, a turnkey system was the only option for MoVIP. The law also required "multiple providers," a condition which made the RFP more complicated. Adding still more complexity was the K–12 scope of the program. All of these factors resulted in a 111-page RFP.

The development schedule was fast and furious. In early May 2007, MoVIP selected two vendors (one for grades K–5; one for grades 6–12) to provide online services for the first couple of years. Fourteen months after the law passed, classes started in August 2007 for almost 2,000 students across Missouri.

Funding Sources

Missouri lawmakers elected to make MoVIP funding a line item in the state budget. The original fiscal note for the program projected a budget of $2.6 million for the first year and $5.2 million for the second year. Because of the intense interest in the program when the law was introduced, the legislature approved $5.2 million for the first year—before classes even started.

One of the critical components of the legislation deals with how local school district funding is affected by students' participation in virtual classes. If a MoVIP student is dually enrolled between the local school district and MoVIP, the local school district will experience a reduction in state aid for the MoVIP classes in which the student is enrolled.

For example: A local school district receives $600 per pupil in state aid. The school district has a six-hour day. In effect, the school receives $100 per course. In this scenario, the student takes five classes in the local school and one class through MoVIP. The school district would

continue to receive its normal state aid for the five classes this student attends. The law includes a "15 percent factor" which permits the school district to collect 15 percent of the normal state aid that a MoVIP student would generate. As a result, in this scenario, the district would get $15 (instead of $100) for the one MoVIP class. In total, the district would receive $515 in state aid for this student, rather than the $600 it would otherwise receive.

Any classes that are offered through the $5.2 million in state appropriations are referred to as "state-funded seats." MoVIP does not use the word "free" since the local school districts do receive a reduction in state aid. The number of state-funded seats depends on the appropriations that will be approved each year by the Missouri legislature. When all of the state-funded seats are utilized, students may take all of the available MoVIP classes on a tuition basis.

MoVIP also offered summer classes at the secondary level. No appropriations were approved for summer school by the legislature. The summer program was funded by tuition only. All students who agreed to pay tuition were accepted. The MoVIP Web site included information regarding summer school.

The primary source of funds for MoVIP is the designated state appropriation. Some staff development funds have been secured through other state funding within the Department of Education's budget.

Supporting Partnerships

Representative Brian Baker was the driving force behind Missouri's virtual education initiative. His work with public school educators, home school parents, lobbyists, professional education organizations, and the Department of Elementary and Secondary Education was the key to the success of the legislation. Charter school laws in Missouri do not allow a virtual charter school except in the metropolitan areas of Kansas City and St. Louis.

During the planning year and since the rollout, the Director of Virtual Education has worked to involve all of the stakeholders on a continuing basis. A MoVIP Advisory Council was organized almost immediately after the governor signed the legislation. The Advisory Council includes representatives from instructor organizations, administrative organizations, school boards, distance learning organizations, private schools, home school advocates, and school counselors. As soon as students actually enrolled, MoVIP added parents to the council as well.

Regular communication with the stakeholders has been one of the success stories of MoVIP. The Director of Virtual Education spent significant time making sure that all of the partners were aware of the progress of MoVIP.

Mission

The legislation stipulates that "any students under the age of twenty-one in grades kindergarten through twelve who are residents of the state shall be eligible to enroll." With that mandate, Missouri became one of the few virtual state programs with a

K–12 vision. The legislation ensures that "any student"—including those in public and nonpublic schools—may have access to this program. The third variable that makes MoVIP unique is that the program must accommodate full-time and part-time students. These inclusive provisions presented many challenges during the planning process.

The law does not give any type of student preference for enrollment in state-funded classes. Based on the experience of other states, however, MoVIP anticipated that certain groups would be the most likely candidates for online classes:

- Students who are homebound for medical reasons

- Students needing advanced classes (For example, only one-third of Missouri's public school districts currently offer Advanced Placement (AP) courses.)

- Home-schooled students

- Students in schools that do not offer a full range of courses (foreign languages, calculus, physics, etc.)

- Students with special circumstances (expulsion, suspension, pregnancy, etc.)

- Potential dropouts who need to make up academic credit (credit recovery)

- Special-education students who could be successful in another environment

Missouri is a diverse state with 524 public school districts, the majority of which are rural. MoVIP has to serve the needs of students in all parts of the state equally, not just in the biggest school districts.

Status of School

The law states that MoVIP "shall comply with all state laws and regulations applicable to school districts, including but not limited to the Missouri School Improvement Program [the state's accreditation system for public schools], adequate yearly progress (AYP), annual performance report (APR), instructor certification, and curriculum standards." This provision contributed to the early acceptance of MoVIP as a viable program.

The vendors that submitted bids for the program were required to submit their courseware at the same time. Missouri K–12 instructors from around the state evaluated the products. Deficiencies noted by the instructors were shared with vendors, and they were given another opportunity to show how the curriculum would align with state-developed "grade-level expectations," which are part of Missouri's standards. The vendors were chosen after the review of courseware was completed. MoVIP contracted with two vendors for online services. The K–5 program was operated by Connections Academy (CA). CA provided the

courseware, as well as the instructors. Core classes such as Communication Arts, Math, Science, and Social Studies were offered in grades K–5, along with electives such as Art, Technology, Music, and Foreign Language. Almost all of the eleven staff members hired by CA were full-time and worked daily out of an office in the state capital, Jefferson City.

The grades 6–12 program was operated by Northwest Missouri State University (NWMSU) in Maryville, Missouri. NWMSU partnered with eCollege, Kaplan education services, and BocaVox to provide all of the online services for this level. NWMSU had 18 full-time instructors, 13 part-time instructors, and 18 graders. NWMSU offered 24 secondary courses ranging from freshman-level English to senior-level Honors Physics. Nine AP courses were offered, as well as 16 Honors courses. Over twenty additional courses were planned for 2008–2009. All secondary staff worked from their homes.

Connections Academy and Northwest Missouri State University were considered subcontractors to the state education agency, (DESE).

Administration and Policy

Organization Structure and Relationships

The law provided that MoVIP would be a function of the state education agency (DESE). The legislature directed DESE to establish the program and gave the State Board of Education rulemaking authority. As a result, the State Board of Education became the governing board for MoVIP. While some virtual programs have struggled with the bureaucracy associated with state departments of education, it has been a real advantage for MoVIP to be a component of DESE.

The director of virtual education is an employee of DESE. As the program was being developed, he had the agency's infrastructure for support. The DESE lawyers served as legal counsel. Curriculum supervisors assisted in the development of the specifications for the courseware and in the evaluation of vendors' proposals. Access to DESE staff to assist with promotional materials, as well as public information personnel to provide assistance with the media, was extremely helpful. As policies and procedures were being developed, the Commissioner of Education and his staff were regularly involved. The RFP process was overseen by the state's Office of Administration (not a part of DESE), ensuring that all vendors were treated impartially.
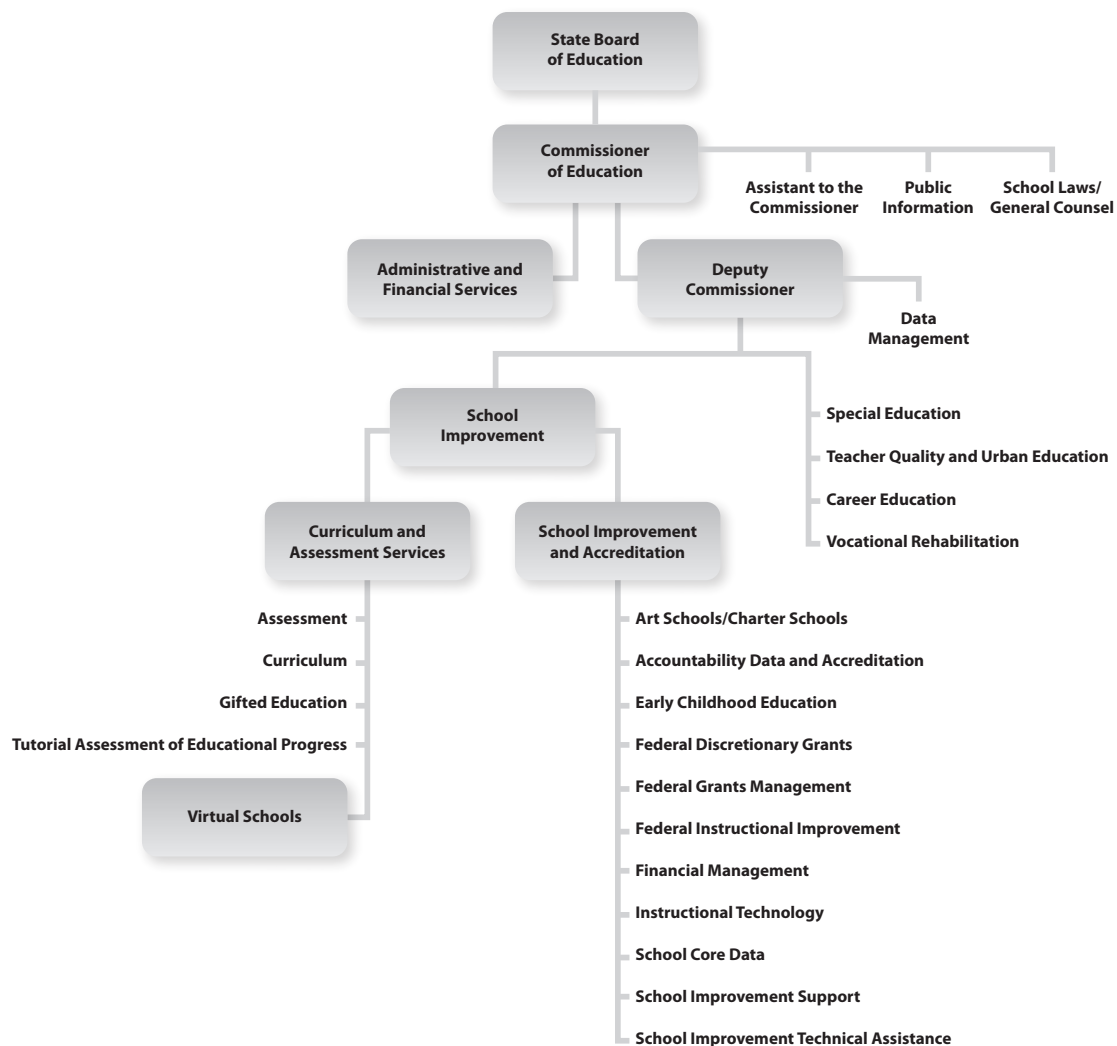
Figure 10-1. MoVIP Organizational Chart: Department of Elementary and Secondary Education

With the limited staff provided for the program, having access to DESE support was the only way that the program could have been developed in the year allotted by the law.

Housing the program within DESE also provided the credibility that was needed to "sell" the virtues of virtual education to educators around the state. In general, new educational initiatives are sometimes slow in gaining acceptance. Virtual education is no exception. The connection with DESE speeded the acceptance of MoVIP by local school officials, professional organizations, and parents.

DESE's interpretation of the law requires all public schools in the state to accept credit earned in the MoVIP program. Private schools are not required to accept the credit since they are not part of the public education system. MoVIP grades are sent to the school in the form of percentages. Missouri does not have a standard grading scale for its 524 school districts. MoVIP submits a percentage for the final grade to the local school district; the district must translate the percentage into a grade based on the local grading scale.

MoVIP is a state program and not a local education agency (LEA). For that reason, MoVIP awards course credits, but it does not grant diplomas.

Accountability

Students who take MoVIP classes are required to participate in the statewide assessment program for public schools, called MAP. This includes both public and nonpublic students. Dually enrolled students take the MAP tests in their local school districts. Students not enrolled in the local school district are required to come to testing centers around the state during the testing window each April. All MAP scores are assigned to the MoVIP program for accountability purposes. If local school districts elect not to include the MoVIP test scores in their data, they can petition DESE to have the scores removed from their reports.

As part of the RFP process, MoVIP included detailed criteria regarding the collection of data. This section created some consternation for prospective vendors. Over the past several years, Missouri has made significant strides in the ability to track student data. One of the major accomplishments was the issuing of a state ID number for all Missouri students. MoVIP adopted the state ID number for its program, ensuring that the full range of student data can be collected for all online students.

As part of the development phase, the director quickly got the data "gurus" at DESE involved with the process. Having their involvement from the very beginning was critical to getting the correct data collected as part of the MoVIP management system.

Following the lead of other states, MoVIP also issued an RFP for outside evaluation services. Missouri was fortunate to obtain TA Consulting (Illinois) to evaluate the program. TA Consulting brought a team of experienced professionals to direct the evaluation component. Using surveys of many groups, focus groups, and the statewide assessment scores, this group submitted monthly updates on their evaluation services, with an annual report due in the fall.

Instructors

MoVIP instructors were employed directly by the two vendors. Since the subcontractors are private entities, the MoVIP instructors were not state employees or members of the state retirement system. This arrangement enhanced the opportunity for retired instructors to remain active in the profession through the MoVIP program. MoVIP has also found that young instructors with families were also interested in teaching in the program.

The law requires all MoVIP instructors to have Missouri certification. DESE added a qualifier requesting that the instructors be Missouri residents, if possible. In the virtual world, this is not an accepted practice, but for the start of the MoVIP program it was a good decision. The concern of instructor organizations losing teaching jobs within the state was eliminated by this decision. DESE also believed that since all MoVIP courses must align with Missouri's curriculum, it was appropriate to employ Missouri instructors. For some non-core classes, such as foreign languages, the vendors reached out to other virtual state programs for staffing. Sharing of specialized instructors will become more common as the state programs evolve.

"MoVIP is a program that makes education available to all students statewide. It is an extremely valuable program that has benefited a variety of students in a multitude of situations. We have students from all different backgrounds and situations and MoVIP has enabled these students to get an educational need met that they otherwise would not have had the opportunity to achieve. MoVIP has allowed students that have medical issues or any number of other issues to still receive the education that they deserve. It is amazing the students that we have reached and the educational opportunities that we have been able to provide for the students in the State of Missouri."

Professional development for the MoVIP instructors started with the secondary instructors participating in a three-day session before starting classes. Ongoing staff development was provided to the instructors through the secondary vendor. Elementary instructors had a similar staff development session before classes started, but since they worked in a central facility, they had daily opportunities to share and grow in online education.

DESE does not offer separate certification for online instructors, but several higher education institutions within the state have indicated that they will be offering an online endorsement for instructors.

MoVIP collaborated with e-Learning for Educators. E-Learning is an eight-state collaborative effort funded by a Ready to Teach grant from the U.S. Department of Education to provide high-quality online staff development programs for educators.

Students

MoVIP requires a student-instructor ratio of 120-1 for secondary instructors and 50-1 for elementary instructors. A total of 2,867 unique students remained enrolled after the drop date in at least one semester class during the 2008–2009 Regular School Year (see Table 10-1).

■ There were slightly more female than male students enrolled.

■ About 83 percent of unique enrolled students were White. About 16 percent were Black, Hispanic, or Indian (Native American).

■ The percentage of Indian students exceeded the state average, while the percentage of Hispanics approached it. The percentage of Black students was below the state average.

- There is no official state average for the percentage of public school students who are gifted. However, the percentage of unique enrolled MoVIP students (6.2 percent) classified as Gifted was higher than the estimated state average in 2008 (3.6 percent)[1].

- The percentage of unique students enrolled in MoVIP who had a documented IEP disability (9.5 percent) was lower than the state average in 2008 (14.3 percent).

- The 771 unique Elementary Division (K–5) students constituted 26.9 percent of total MoVIP students, while the 2096 unique Secondary Division (6–12) students constituted 73.1 percent.

Table 10-1 also reflects that 76 percent of the students attended part-time as opposed to 24 percent that used MoVIP full-time.

"I must say, this is by far the best school I have been to. You have awesome teachers. My Spanish teacher is great; she is always there to help me in Spanish. MoVIP is such an organized school that offers so much. I am taking all of my classes online. I learn a lot better like this. I love that my teachers are available to help me out most of the day. I have told all of my friends about MoVIP and they are officially jealous of me."

MoVIP had students participating from 111 of Missouri's 115 counties. The proportion of each type of student the MoVIP serves has changed over time. The number of full-time secondary students greatly increased in year two.

In 2008–2009, MoVIP had 15,810 semester class enrollments. This made MoVIP one of the largest state virtual schools in the country in terms of enrollments, despite having only been in operation only two years.

State officials sought to provide a large number of unique classes for Missouri students. In 2008–2009, MoVIP offered 236 unique semester-length classes. MoVIP's elementary division offered a full curriculum comprised of 88 classes. The secondary division offered a comprehensive curriculum in 2008–2009, making 148 semester classes available.

Emphasis was placed on core academic classes, as well as foreign language (Spanish and Latin). Nine Advanced Placement (AP) courses and 16 honors courses were offered.

MoVIP serves a variety of students. MoVIP accommodates a large number of medically fragile students, as well as some students on disciplinary suspension.

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[1] 32,374 / 899,558 = 3.6 percent. Derived from figures provided in *http://www.dese.mo.gov/divimprove/gifted/stateassisted/growthchart.pdf*.

Unique Finally Enrolled MoVIP Students by Part-Time or Full-Time Status and School Division, 2008–2009 Regular School Year			
	Part-Time/Full-Time		
School Division	Part-Time	Full-time	Grand Total
Elementary (K–5)	399	372	771
Secondary (6–12)	1784	312	2096
Grand Total	2183	684	2867

Table 10-1. Student Enrollment Status
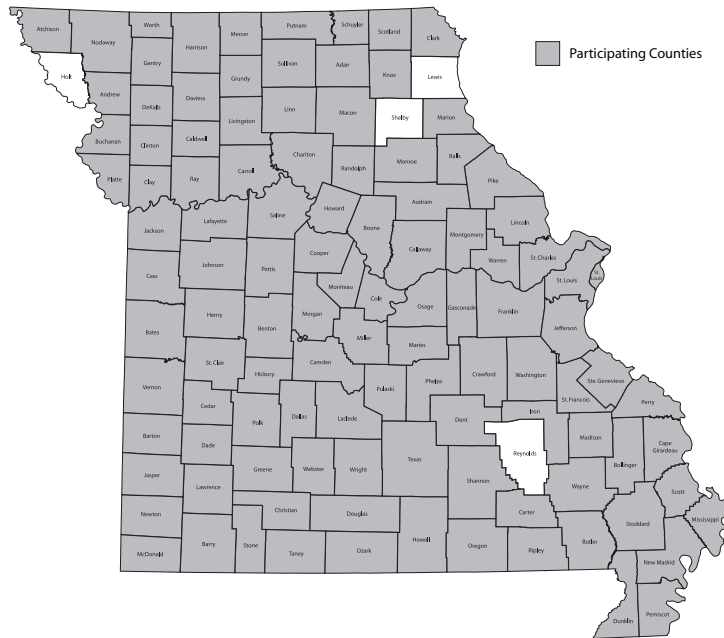
Figure 10-2. MoVIP Participating Counties as of February 2008

Outcomes and Lessons Learned

Management Issues

In practice, MoVIP had two separate virtual programs, because of the differences between the elementary and secondary operations. This arrangement made it difficult for the analysis of data. Future plans include utilizing the same management system for all grade levels.

Elementary courses, for example, were more "book-driven" and less technology-based, while secondary courses were almost all technology-driven. Parents played a much larger role in monitoring students' involvement in the elementary courses. The elementary virtual classes had a more traditional schedule, while the secondary program offered more flexibility in scheduling, pacing, and instructor access. As MoVIP prepared for its

first class to transfer from the elementary program to the secondary program, it was recognized that the programs needed to work together in the transition process.

While the law does not set priorities for student participation, MoVIP anticipates some issues as enrollment grows and the demand increases for state-funded seats. Setting a priority for student participation will require legislative action.

DESE knew that marketing would be a sensitive subject. MoVIP needed to emphasize how this program could be another delivery method for Missouri students and families. MoVIP did not want to be perceived as recruiting students away from school districts. This was accomplished by having the director give more than 100 "informational" presentations throughout the state during the pre-launch year. These presentations (for school officials, counselors, home school organizations, and legislators) emphasized how a state-sponsored virtual school could benefit students, families, and schools.

Student-Related Issues

"While living in Madang, Papua New Guinea, our teenagers had only two education options: boarding school or homeschooling. State-funded MOVIP provided the perfect curriculum. With access to a wide variety of Advanced Placement classes, our children have taken challenging courses and are ahead of the game for university enrollment. Although we live thousands of miles from the instructors, they are available via Skype call, IM chat, or e-mail, even at unusual hours. Interaction with other American teenagers is lacking overseas. Making friends through classroom discussion and peer-review projects has been a real bonus."

An area affecting enrollment is that students (and families) who sign up for state-funded courses have no fiscal responsibility. There is no registration fee or other family contribution. The result has been a large number of students signing up for courses but either not "showing up" or readily dropping. Within the program this phenomenon is referred to as "window shopping." It created extra work for the MOVIP staff. In addition, it created staffing problems for the vendors and may lead to students on waiting lists. The hiring of an academic counselor for enrollment is being considered.

MoVIP provided a two-week grace period in which students could withdraw if they did not find virtual education as a fit for their learning style. Some students signed up for virtual classes thinking it would be easy for them, but dropped out after the grace period. This cost the student nothing, but it wasted a state-funded seat that could have been used by other students.

Special education services were a struggle for MoVIP initially, especially the definition of responsibilities for IEP development between local school districts and MoVIP. Since MoVIP is not a local education agency, it does not have the authority to develop IEPs. MoVIP works with local school districts to accommodate the needs of special education services and to clarify responsibilities for providing various services.

Best Practices

MoVIP provided all materials to make taking courses efficient for the participants. Textbooks and instructional manipulatives (at the elementary level) were shipped to the students. The same was true of the secondary program; if necessary, graphing calculators were provided for the upper-level math classes. In other words, MoVIP had no hidden costs related to materials.

While some full-time virtual programs provide equipment and Internet access, MoVIP did not provide equipment or Internet access for any students. MoVIP was considered a choice in Missouri. This designation allowed funds that would normally be spent on equipment to be utilized for courseware and instructors. This will become more important as the demand for state-funded seats grows. MoVIP is working on a plan to establish, from private sources, a "hardship fund" to assist students without computers. MoVIP also developed a close working relationship with the public library system around the state to assist with equipment needs.

Involving public school personnel as much as possible has been a key to the success of Missouri's program. If a student is dually enrolled between the local school and MoVIP, such involvement is critical. MoVIP has guaranteed that access to student information, as well as to communication records, is part of the student information system (SIS) for MoVIP. The Maestro system serves as the SIS for the secondary schools. It gives administrators access to student pacing information, instructor information, student progress, and all communication between students and instructors. The elementary program also provides much of this information to the local school district.

The MoVIP instructors have access to the curriculum supervisors at DESE and other state resources. This gives the MoVIP instructors updated information regarding changes in Missouri's curriculum. For example, Missouri implemented new end-of-course exams at the high school level during 2008–2009. MoVIP instructors were kept abreast of how this would affect the virtual curriculum.

Having the elementary instructors work in a single location provides a support system for the instructors. This is especially important in working with families at the elementary level. Involving parents as learning coaches is enhanced by this arrangement. Daily meetings of the elementary instructors promote continuity and problem solving.

At the secondary level, the vendor incorporated a position, similar to a traditional department chair, called an Instructional Team Leader (ITL). MoVIP has ITLs for math, communication arts, science, and social studies. The ITLs are on the leadership

team for NWMSU and serve as consultants for the instructors in their respective departments. "Department meetings" are conducted virtually by the ITLs.

> *"I would just like to say that I have never seen my son so excited about school work. I think with my son, he became so far behind he saw no hope and just wanted to quit school. MoVIP has given him hope and a positive direction. The fact that he loves computers helps, too. He comes home from school and gets right to it and in the morning checks on the computer for grades. The quickness of the grading and the fact that he can catch up has brought a new attitude to my son. I would like to thank you for the wonderful opportunity this is giving to students. Whoever constructed this program, it is a blessing."*

At the secondary level, the use of part-time instructors to work alongside the full-time instructors proved successful. Part-time instructors serve as graders for the full-time staff, giving them more time to interact with their students. Part-time instructors are hourly workers and usually work 8 to 15 hours a week. MoVIP established a guideline to return all homework assignments within 24 hours after submission at the secondary level. These graders allow the instructors to meet that timeline. Immediate feedback in virtual education is critical to the success of the students.

One of the success stories of MoVIP is the range of students being served. MoVIP serves students with a multitude of special needs. Physical conditions play into the needs of some of our students. Students with cancer, diabetes, suicidal tendencies, injuries, and emotional issues are all part of the student body. The student population also ranges from bright students who are able to move rapidly through online courses, to those who are at risk of dropping out of school.

The diversity of students named by MoVIP has been amazing. We had a missionary family in New Guinea receiving their high school studies via the Web. Also enrolled was a student with PICA (a craving for unnatural foods such as chalk, metal, and clay, etc.). And we had a student with a time-consuming modeling career. In all of these situations, MoVIP provided a welcome alternative as these students were unable to attend at a normal Missouri brick-and-mortar school.

Communication between student and instructor and between instructors and parents is a central part of the MoVIP program. Weekly contact with students is required. At the secondary level, instructors are required to be available at least 30 hours per week. Individual office hours are posted for students reflecting when the instructors can be reached via e-mail, toll-free telephone, or the most popular method, instant messaging. Office hours must include daytime, evenings, and weekends (especially Sunday night).

Both divisions hired specific staff to provide support. At the elementary level, a full-time special education director works directly with the instructors to facilitate the implementation of accommodations required in IEPs.

At the secondary level, academic coaches were employed as part of the instructional team. It is the responsibility of the academic coaches to get students acclimated to the program. They follow up with students who get behind. When students struggle with issues, the academic coaches are available to help solve the problems. This frees up the instructors to work with the students on academic issues.

Courseware Selection

As MoVIP has evolved, the quality of courseware was well researched. State funds supported an extensive review of online courseware. The Department of Elementary and Secondary Education completed a third round of courseware evaluation in which twenty-four educators from around the state participated. Some of these educators were online teachers and some were from the "brick-and-mortar" environment. Large and small school districts were represented, as well as rural and urban.

In the program's second year, we had over 400 courses submitted by various vendors. Vendors not only included commercial vendors but also a Missouri school district submitted courses that they have developed. An economic organization, Missouri Council for Economic Education, submitted a personal finance course that they have developed.

Each review team evaluated close to 50 courses over a four-day period. We utilized an online courseware evaluation process but found the face-to-face experience more engaging with better results.

A rubric to score the courseware relied heavily on the SREB document. Teachers were given a paper copy of the course outline along with the URL for the particular course. In addition, educators were provided state-level, grade-level, and course-level expectations to check for alignment with Missouri Standards. All team members reviewed the same course at the same time and then discussed their findings. A recommendation (to accept or reject), along with a final score and written comments, was submitted by each committee. On several occasions, the group recommended that two courses covering the same content be accepted.

A recent round of evaluation resulted in 185 courses being recommended. This process not only selected the vendor but also formed our course offerings for the following year. For example, the social studies committee did not find a quality sociology class, so they recommended that we not include such a class in the offerings for that school year.

This process cost the Department of Elementary and Secondary Education approximately $25,000. The Department paid travel expenses (mileage, lodging, food) and reimbursed the school districts for substitutes while the educators were out of their classrooms. This process ensured that MoVIP had quality courseware. It also gave us "buy in" from the school community by involving the educators from around the state.

District Selection

Not only did this group select courseware for inclusion in the MoVIP program, it also guided Missouri school districts. The Department realized that virtual education provided at the district level is the ultimate goal for this delivery method. To facilitate that, MoVIP asked the courseware vendors to also provide costs for school districts to lease this courseware and utilize their district teachers.

Missouri districts have been bombarded with solicitation from online courseware vendors. The vendors claim that their courseware is quality and will produce "outstanding results." Astute administrators have doubts about these claims. By giving Missouri administrators a list of "approved courses," they have a starting point for establishing virtual education as a component of their educational delivery system.

Missouri has struggled with the "credit recovery" arena. After several attempts, MoVIP now offers foundation courses which basically cover the same content as the regular course but with a shift in some strategies to assist the struggling student.

Another area for development has been "gifted education." Specific guidelines were established for a school to offer a gifted education program. The guidelines are very specific, requiring IQ tests and other related performance data. In a virtual setting, gathering all of that information is a struggle. MoVIP plans to offer accelerated classes to simplify the regulations in being called a gifted program.

Standards and Curriculum

Setting high standards has been an important theme in the MoVIP story. By maintaining high standards, MoVIP developed credibility with school officials and parents. The fear that MoVIP was going to be less rigorous has been dispelled. MoVIP initially lost a large number of students who thought courses were going to be extremely easy. Districts were concerned the standards might be lowered due to the large number of students dropping, but they were reassured when DESE indicated that standards would not be lowered. At both levels, students have quickly found out that the expectations are high. Students who log on every day are much more successful. Enrollments are up and growing after the initial dropouts.

Pacing of instruction is a key issue in virtual learning. MoVIP classes have the flexibility to alter the pacing for certain situations, especially students with medical needs. Rolling enrollment also gives students the flexibility to start and end classes to meet their needs, and this has been well received.

In Missouri, constructed responses are a large part of the statewide assessment. Constructed responses have been embedded in the curriculum to assist the student in developing this skill.

Differentiated instruction is a major component of the instruction provided through MoVIP. We had a fourth grader taking a high school geometry class. The local school district did not want to place an elementary student in a high school classroom.

MoVIP was the perfect solution. MoVIP also had high school students taking elementary classes with success. A large number of students have taken Algebra I in middle school. Individualized instruction is a normal feature of MoVIP.

If a parent or a school official indicates during the registration process that a student is off level (below or above), the elementary program will utilize a pretest. The secondary program uses the first two weeks of the course to assess the proper placement of the student.

The students have the opportunity to participate in live synchronous lessons (*ClassLive* and *Elluminate*). Our instructional staff uses this tool with groups and with individuals. Threaded discussions are a major part of some of our high school courses.

All courses use video clips to enhance the lessons. Classes also are ADA compliant. MoVIP had a visually impaired student taking a chemistry class. A local school district had a hearing impaired student and lost their interpreter a week before school. This fifth grader used MoVIP in the local school since the courseware is accessible for the hearing impaired. Technology easily supports these accommodations.

At the secondary level, concerns about science labs were voiced by local school officials. Quickly, educators realized that the science labs provided in the MoVIP courses provide an enriching experience comparable to the wet labs in schools.

Turmoil and Change—Future Plans

In June of 2009, a new Missouri Statute 162.1250 was implemented. This provision eliminated the seat-time requirement to receive state aid for virtual classes. This law has generated strong interest in virtual education that before was not present. Administrators still struggle with the concept and need more guidance from the Department of Elementary and Secondary Education. Offering districts approved courses is a starting point for them. Teacher training opportunities are being developed as well.

The fall of 2009 produced a significant turning point for the MoVIP program. Providing state funded seats at no cost to schools and parents created a significant demand on the state budget. As the same time, the economic downturn in Missouri generated alarmingly high deficit spending levels, resulting in a tumultuous scenario. The state was forced to reduce the funding for MoVIP by 50 percent in October of 2009. In essence, students were allowed to finish their first semester classes, which were state funded. Students were only allowed to continue second semester by paying tuition. Obviously, we were concerned about the impact on students, but we also had 35 teachers who faced losing their jobs in mid-year.

Recovering from an event like this has been challenging, but it also created the opportunity to truly study the future of a state virtual school in Missouri. The Department of Education had to accept the fact that it was very doubtful that the current funding model could be sustained. This change also has given impetus for Missouri school districts to investigate how they can provide virtual learning experiences within their own resources. MoVIP, like most

state virtual school programs, is a catalyst for virtual learning within the state. The events that unfolded helped define the various roles in the delivery of virtual education within the state.

In January of 2010, two months later, MoVIP started the second semester as a tuition program. Funds were secured to provide a few state-funded seats for students who had been in the program the first semester with the medically fragile designation. Surprisingly, MoVIP had over 350 students taking over 750 semester classes. Close to 90 percent of our students are part-time now.

As of summer 2010, the MoVIP tuition program was developed. With some Missouri school districts cancelling their summer programs due to funding, MoVIP saw significant interest in these offerings.

The Missouri Legislature funded MoVIP at about 8 percent from previous years. This allows the infrastructure to continue as a tuition program. Courseware was reevaluated for the newly defined program. Virtual education is evolving in Missouri. The role of MoVIP will still be to serve Missouri students but also to assist school districts as they look to expand their virtual education delivery options.

Losing funding in mid-year created chaos as well as credibility issues. A lot of school personnel were under the impression that MoVIP was fully eliminated. In some respects, as a Department of Education, we had to start the marketing process over. The focus shifted to the MoVIP program and the options that school districts can access through the program.

Funding provided by the state for virtual education will not return soon to the levels of the first two years of the program. The tuition model is here for the long term. MoVIP should shift to helping school districts incorporate this delivery method into their offerings.

Links

MoVIP Web site: *http://www.dese.mo.gov/movip/*

Legislation establishing MoVIP:
http://www.moga.mo.gov/statutes/C100-199/1610000670.HTM

The North Carolina Virtual Public School

Dr. Bryan Setser[1], Chief Executive Officer

The North Carolina Virtual Public School (NCVPS) is committed to raising achievement and closing learning gaps with 21st century innovation by providing access to world-class learning opportunities for all North Carolina students. We provide the vehicle for school districts to accomplish the State Board of Education's goals of producing 21st century learners, professionals, leaders, and systems by providing easily accessible, online learning opportunities for our state's most valuable resource: its children. Our mission is to provide skills, student support, and opportunities for 21st century learners to succeed in a globally competitive world.

North Carolina Virtual Public School

http://www.ncvps.org/

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[1] This chapter is dedicated to my friend and colleague Kathy Taft (1948–2010), a champion for North Carolina students and a tireless supporter of the North Carolina Virtual Public School.

History and Overview

At the North Carolina Virtual Public School (NCVPS), we eat barriers for breakfast. NCVPS has required such a mantra since inception in 2002 and continues to "fail forward" to address the challenges, innovations, and threats that comprise the enterprise of state-led virtual schools. Many of the courageous men and women featured in this chapter have sought to knock down economic and political barriers and turn them into opportunities for North Carolina students.

Our current Governor (then Lt. Governor) Beverly Perdue and the North Carolina General Assembly enacted a general statute in 2002 to create BETA, the Business Education Technology Alliance. The BETA Commission contained key leaders of business, local and state policymakers, and educators who were charged with ensuring that the effective use of technology be built into the North Carolina School System for the purpose of preparing a globally competitive workforce and citizenry for the 21st century.

> *"My online courses: English, Spanish, US History and others have given me an opportunity to learn a language and literary history in a spirit of creativity and individual development. It is very clear from my time spent working on these courses that I have grown in my academic and artistic independence. I have been renewed with a sense of self that is often lost in a normal classroom setting. My teachers are all very kind, diligent and intelligent, and I know that this is not an experience I will soon forget."*
>
> — Isaiah Simpson, 12th grader
> Union Pines HS, Moore County

Governor Perdue was also keenly aware of Florida Virtual School's phenomenal success in providing access to any child, any time, any place, (Florida Virtual School, 2010), and she desired a similar yet enhanced model for all of North Carolina's students regardless of zip code. Simply put, she wanted then and desires now for geography not to be a limit on access to a high-quality education. For Governor Perdue, NCVPS has always been the great leveler for 21st century students to succeed and ultimately fuel North Carolina's economic development in the process.

North Carolina needed to be prepared to provide online courses to its students using a variety of instructional approaches to accommodate individual and schedule differences. Therefore, the BETA Commission, under the leadership of Governor Perdue, established the E-Learning Commission and charged it with establishing the North Carolina Virtual Public School in 2006.

The purpose of the North Carolina Virtual Public School (NCVPS) is to provide courses that students are unable to take at their local schools. In other words, NCVPS provides the courses that supplement a student's local school's program of study.

> "As a new charter school administrator, the North Carolina Virtual Public School has provided us with opportunities to expand our curriculum and offer courses to our students we couldn't have otherwise. In our first year with a high school (9-11), we didn't have complete capacity to offer as many Advanced Placement classes as we would have liked. Staffing did not allow us the chance. As a result we turned to NCVPS to help us fill some of the voids.I really like the fact that our students are being taught the North Carolina Standard Course of Study by a North Carolina certified teacher. The skills each student develops by taking an on-line class will only help them be better prepared for further studies after graduating from Pine Lake. The support of the Regional contacts the Help Desk, and all others involved in NCVPS is beyond comparison."
>
> — Chris Scholl, Head of Upper School, Pine Lake Preparatory

For example, a student may wish to take an Advanced Placement course the local school does not offer. A different student may want to complete the remaining requirement for graduation this semester, yet the course needed at the student's school is already full this semester. A student may be homebound or hospital bound due to illness or injury and wish to remain on schedule to graduate on time. Yet another student may wish to graduate from high school in three years. Each course is taught by a certified teacher in the subject certified to teach in North Carolina. Once the online course is completed, the student receives credit on his or her school transcript from the student's participating school.

In the early development stages of 2006–2007, the initial course offerings were for high school students only. In subsequent years, course offerings were made available for middle school students. In 2008, NCVPS added Learn and Earn Online (LEO; *http://www.nclearnandearn.gov/*) under its umbrella as well for high school students seeking college credit via community colleges and/or UNG I-school.

The authorizing legislation for NCVPS states: "NCVPS shall be available at no cost to all students in North Carolina who are enrolled in North Carolina's public schools, Department of Defense schools, and schools operated by the Bureau of Indian Affairs" (NCGA, 2005). To fund this endeavor, the initial NCVPS advisory board partnered with BellSouth and the National Governor's Association on a $100,000 grant to form a selection process for staff and establish key operations, procedures, space, and initial marketing for the effort.

The grant led to the creation of an advisory board, and legislation ensued that provided NCVPS with an initial appropriation of $2.7 million to hire additional staff, purchase software infrastructure, and purchase and deploy resources around course development. In addition, the Department of Public Instruction partnered with NCVPS to provide additional office space, as well as access to the North Carolina State Public Teacher Fund. This partnership was and is still significant in that teacher pay accounts for NCVPS's greatest expenditure to date ($10 million) for teaching faculty compensation.

NCVPS partnered with North Carolina State University in late spring of 2007 for additional office space and also sought out the Friday Institute for program evaluation services. Other key partnerships include SAS, who provided free use of their curriculum pathways

product. The Micro Computing Network of North Carolina (MCNC) provided server space and storage, and NCVPS was ready to launch in the summer of 2007 statewide.

Today, NCVPS is committed to raising achievement and closing learning gaps with 21st century innovation by providing access to world-class learning opportunities for all North Carolina students. We provide the vehicle for school districts to accomplish the State Board of Education's goals of producing 21st century learners, professionals, leaders, and systems by providing easily accessible, online learning opportunities for our state's most valuable resource—children.

NCVPS vision is to be a world-class, blended learning organization, and our mission is to provide skills, student support, and opportunities for 21st century learners to succeed in a globally competitive world. NCVPS offers over 103 high school courses that include classic, modular, mobile, and blended online services to North Carolina students in all 115 North Carolina school districts. The courses utilize learning management software to maximize student interaction in each class. Our courses and modules are taught by highly qualified teachers who utilize video, interactive whiteboards, wikis, active worlds, and online discussion tools to engage 21st century learners.

Thanks to the leadership of Governor Beverly Perdue and the North Carolina General Assembly, students can also earn free college credits through Learn and Earn Online (LEO). In 2008–2009, NCVPS was ranked eighth in the country in terms of our standing amidst the 32 other state virtual programs by the Center for Digital Education.

"Although I am at AASA with the Superintendent of the Year program activities, I was able to introduce our curriculum team's NCASCD presentation on 2.0 Leadership from Phoenix through video chat (Tokbox) yesterday. First of all, we wouldn't have been presenting on 2.0 tools had it not been for you and NCVPS, and second, I would not have known how to video chat had it not been for your leadership at NCVPS. By partnering with MCS through the pilot opportunities you have provided, you have helped us transform the way we think and do business. Your personally coming into our district three times in the past couple of years speaks volumes about your commitment to bringing about 21st Century change in NC schools and school districts. Your leadership has provided professional development and distance learning opportunities for staff and students that are making a powerful difference in our students' lives. I will always be grateful to you for giving us an opportunity to participate in this work. Thanks for giving us a chance to prove ourselves."

— Dr. Donna Peters, Superintendent, Montgomery Public Schools

NCVPS will also expand our program to the K–8 level in the coming school year of 2010–2011.

Because NCVPS is a supplemental program and not a school or local education agency, our program is not accredited in the traditional sense, but it has had multiple evaluation cycles that are highlighted throughout this chapter.

Administration and Policy

NCVPS reports directly to the State Board of Education. In addition, it is frequently called upon to report to the Governor's Education Cabinet and to the General Assembly. NCVPS's fiscal and human resources arms reside with the North Carolina Department of Public Instruction. Because monetary and human resources are often rooted in other state systems, NCVPS also frequently interacts with the Office of State Budget Management, Personnel, and State Instructional Technology Services.

In addition, the Executive Director holds seats on the Governor's School Technology Commission and the E-Learning Commission. In terms of awarding credit, NCVPS is a supplemental program that provides course grades to our 115 school districts.

NCVPS courses are aligned to TIMMS, PISA, NAEP, and North Carolina Standard Course of study curriculum during our course revision cycles. NCVPS content is also vetted by research, development, and innovation (RDI) contractors who check for alignment, rigor, and online course requirements from national standards. Because of these efforts, as well as each course being taught by a fully credentialed and certified North Carolina teacher and/or a teacher with full North Carolina reciprocity, school districts and schools award year-long and full-semester credits to students who take our courses.

The process for credit distribution begins at the school site when students register for NCVPS courses and complete them. Each school and student has a unique student identification number, and the data entry and execution process is tracked on our statewide NCWISE network. School-based data managers and distance learning advisors (DLA) ensure that credit is completed and awarded from reports provided to them by NCVPS teachers and cross checked by NCVPS's technology staff. Any and all credit disputes are conducted through partnerships and procedural protocols between NCVPS and the selected school district.

In terms of accountability, the NCVPS advisory board monitors our strategic plan four times a year. The North Carolina State Board monitors a full report on a monthly basis, and independent evaluation has seen three iterations of work since 2007 from North Carolina State University. NCVPS has also been audited and awarded full credentials by the Advanced Placement and College Board Office, and has had three cycles of review from independent course evaluators from the Southern Regional Education Board (SREB) and the International Association for K–12 Online Learning (iNACOL). In addition, the Center for Public Policy at Duke University just completed a recent evaluation on rural access and NCVPS in the spring of 2010.

Many of the aforementioned evaluation cycles focus on the quality of online instruction. Currently, NCVPS employs over 345 teachers on its faculty. Ninety percent of these teachers are North Carolina certified with another 10 percent certified in states that share North Carolina reciprocity. In addition to 70 percent of NCVPS teachers holding masters degrees or higher, more than 30 percent are nationally board certified. These requirements are coupled with the stipulation that all of our teachers be certified in at least one preparatory course to teach online. General roles and responsibilities of NCVPS

teachers include working on course revision teams, managing and teaching course content, responding to students and parents, conducting virtual office hours, attending professional development sessions, and representing NCVPS in their local school districts.

In order to support NCVPS teachers in their ongoing professional development, NCVPS offers weekly just-in-time training sessions, semester start and end revision courses, and quarterly refreshers based on teacher data in our coaching and evaluation model process. Peer teachers are assigned to help teachers with learning and instructional gaps, and all NCVPS teachers are expected to attend weekly e-learning community sessions. Moreover, NCVPS teachers participate in daily professional learning networks on *www.twitter.com* in order to share best practices, connect to key resources and links, and share and celebrate successes.

In terms of enrollment, NCVPS prioritizes e-learning course offerings for students residing in rural and low-wealth county local school administrative units, in order to expand available instructional opportunities. First-available e-learning instructional opportunities include courses required as part of the standard course of study for high school graduation and AP offerings not otherwise available. NCVPS is available at no cost to all high school students in North Carolina who are enrolled in North Carolina's public schools, Department of Defense schools, and schools operated by the Bureau of Indian Affairs.

"Learning with NCVPS has been an enriching experience which I will never forget nor regret. Virtual Classrooms were easy to use and I had no problem adjusting to the online classroom. Whenever I had a problem, all I had to do was call up my teacher and ask. The class prepared me for the exam so much so that when it came time to take the final, which was administered with a class at my school, I received the highest grade at my school. I also had a great facilitator, Mrs. Bass, who aided me with any technical problems and, occasionally, helped me with my class work. Without her my experience wouldn't of been half as pleasant. I have told all of my friends about NCVPS and one semester later, we are all taking online classes."

— Rawad A.

The demographics of our students are very comparable to state demographic enrollments, and our most recent semester saw an increase of 30 percent in our exceptional children's population in part due to a unique partnership with the North Carolina Department of Public Instruction whereby NCVPS teachers are now the teacher of record for occupational course of study classes in the face-to-face programs in North Carolina.

The North Carolina State Board of Education via proposal from the Executive Director of NCVPS established a course for credit policy in 2008 that removed face-to-face seat-time

requirements for NCVPS students. This policy is significant in that it provides the local board of education the flexibility to eliminate the seat-time requirements for face-to-face students if they are enrolled in the e-campus of NCVPS.

For example, the student who wishes to take a Calculus course in the morning at the face-to-face school, work at a restaurant the reminder of the day, play football at night, and then log on to NCVPS can now do so. This policy also provides local districts and schools with multiple options for student scheduling, virtual magnets, and flexibility in services to their students.

In 2009, the State Board of Education expanded the lateral entry policy for NCVPS's critical language teachers, allowing hard to recruit subjects such as Mandarin Chinese and Russian to have some flexibility on time and requirements for lateral entry teachers in the critical language areas. This policy has been a key feature in expanding our Arabic programs as well as Advanced Placement Mandarin and Russian II.

The 2009 docket also witnessed the policy provision of guidance to school districts for registering non-public students in NCVPS courses. Since NCVPS was for public school students only until this policy, this change provided school districts, private school students, and home school students with a win-win scenario in that they can now enroll in NCVPS courses with a minimal charge to the home district and state. As NCVPS expands, this policy will continue to be revised as state taxpayers continue to argue its merits in the local, state, and General Assembly corridors.

The most recent policy for NCVPS saw the State Board of Education present three options to the North Carolina General Assembly that were provided by the Executive Director for the future funding formula options for NCVPS in 2010.

The three options consisted of continuing to fund the ever-growing NCVPS out of a general assembly option, funding through a shared average daily membership option through all North Carolina School Districts, and/or continuing to fund NCVPS through a variety of combination sources.

The merits of a general assembly option are stability in source, but nationwide such funding arrangements have not been proven to be sustainable. In terms of a shared average daily attendance model, this is by far the most sustainable funding model, but school districts often see this option as taking away from their current funding sources. It is, however, interesting to note that many districts in North Carolina already double dip into the virtual school model by offering similar courses and instructors with state money. Therefore, it is conceivable that a savvy school finance officer could leverage virtual courses and instructors to actually reduce their overall benefits packages, class size issues, and resource allocations. Training for such a shift is complex, and school districts in North Carolina may initially resist this model by withholding enrollments in the virtual school until they have a better grasp on its efficacy.

Finally, a combination model of the school technology fund, possible Race to the Top federal fund dollars, external grants, and additional Department of Public Instruction or higher education resources is also a probability, as are public/private partnerships with state government and business as components of a funding model for NCVPS.
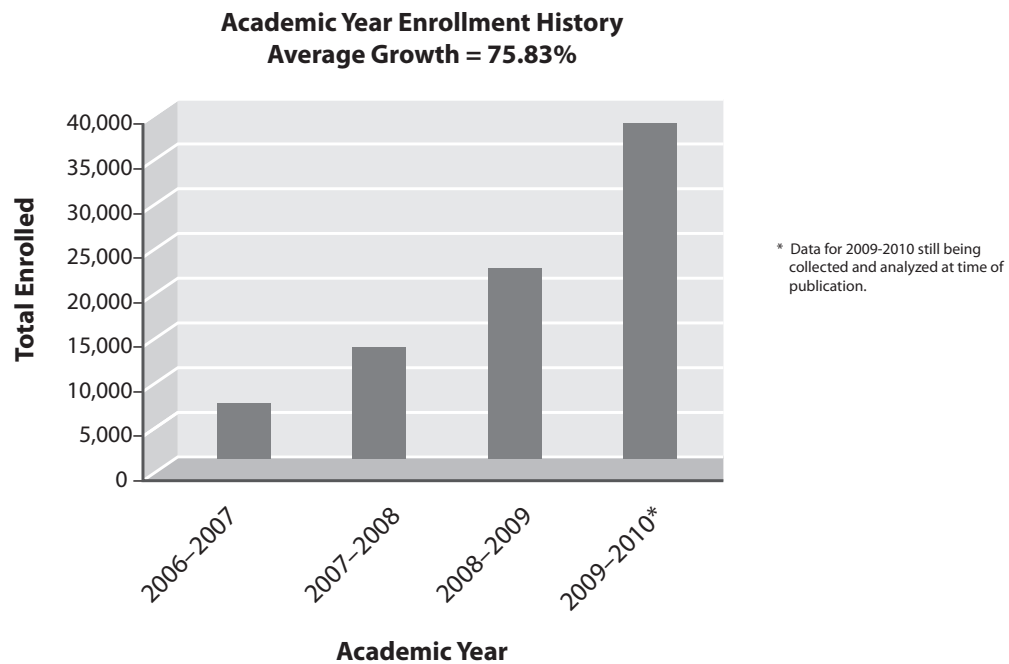
All of these policies are reviewed by the State Board of Education and at the NCVPS Advisory Board level, which is comprised of education, industry, parents, students, and the technology corporate sector. This group meets quarterly and hears data, results, and planning horizons from NCVPS administration. Our administrative staff consists of a Chief Executive Officer, Chief Operations Officer, Chief Academic Officer, Chief Professional Development and Marketing Officer, and Chief Learn and Earn Online Officer. These leaders oversee 14 core employees across our leadership, technology, professionals, environment, and curriculum and instruction divisions. Moreover, 345 teachers are supported by 32 contractors who implement design, research, and innovate strategies across roles such as department chairs and/or data entry specialists. In addition, 759 distance learning advisors are either employed and/or appointed by school districts and/or schools to serve in partnership with NCVPS regarding student and parent support procedures. Such an environment has resulted in many lessons learned and outcomes, which are featured in the next section.

Outcomes and Lessons Learned

Today, NCVPS is the fifth largest virtual school in the nation as ranked by the Keeping Pace Report in 2009. Our teacher retention rates remain in the 95 percent area, as we only turnover teachers due to quality or personnel issues.

NCVPS currently has 18,904 enrollments in the active spring 2010 and year-long 2009–2010 semesters. These enrollments are comprised of 16,173 unique students.

Academic Year Enrollment History
Average Growth = 75.83%

* Data for 2009-2010 still being collected and analyzed at time of publication.

Figure 11-1. NCVPS Historical Growth, 2006–2010

An NCVPS student attends from each of the 115 counties in North Carolina; Figure 11-2 breaks down where they are located.

Figure 11-2. NCVPS Geographic Distribution of Students

The gray values on the map are significant for long j-curve growth in that more than 50 percent of districts statewide still have below 100 students enrolled in NCVPS.

> *"I like the wimba classroom sessions because they make me feel like I'm really in a class and not just taking this alone. They also help me to learn the perspectives of my classmates. I try to use whatever ideas come up in the sessions in my work."*
>
> — Hannah, Art I Student, NCVPS

In terms of course completion and performance, NCVPS fall 2009 data indicated that out of 15,000 unique students, 88.93 percent were passing their courses and 98.47 percent were completing them. This was not always the case.

During the first summer of operation in 2007, more than 80 percent of the 5,000 students who enrolled in NCVPS failed the courses. In addition, completion rates were below 50 percent and the program had been through two Executive Directors in six months. The program was essentially on its last legs and had other political hurdles to jump as well. Many teachers during that first summer were grossly overcompensated and the media began to report on physical education teachers making $60,000 in one summer. Through the bold leadership of then Deputy State Superintendent J.B. Buxton, the former Director of Learn NC, Jim Barber, was hired to balance human resources and fiscal operations in anticipation of a new Executive Director.

Of the 20 percent of students who had succeeded in NCVPS during the summer of 2007, 77 percent resided in the school district of Iredell-Statesville, North Carolina. This bedroom community of Charlotte, NC, the state's largest city, had three primary factors going for it that other districts that first summer did not. First, they had a visionary leader in then

Superintendent, Dr. Terry K. Holliday, now the Commissioner of Education in Kentucky. Second, they had a Chief Quality Officer, Dr. Bryan Setser, who was running point on the virtual program and who had been active during the past two years visiting high-performing school districts across the country, including Florida Virtual School, the nation's leader in K–12 distance education. However, the most valuable asset Dr. Setser brought to the table during that first summer was a student support model for NCVPS at the district level.

> *"NCVPS is definitely a new experience for me. Not only my class educational objectives are being met, but this experience is enhancing my PC and technology knowledge. I have learned that students must be open minded and willing to work in any learning environment. It has also increased my time management skills and my ability to work on my own. I have a committed and caring teacher that dedicates time to answer my questions or concerns in a timely manner. I'm very glad I had the opportunity to be a NCVPS student."*
>
> — Joseph P. Principles of Business Student

In short, NCVPS did not depend exclusively on themselves to provide support to students during that first summer session. We knew the perils of vendor-supported software, and we formed an immediate partnership with NCVPS and Jim Barber, as well as the schools in his district. First, we had a mandate from Dr. Holliday that 100 students per school would be enrolled in NCVPS that first summer. This expectation was non-negotiable. Therefore, we set the expectation of "blended support" for e-learning. This concept during that summer was well ahead of its time for North Carolina in that NCVPS expected school personnel to support e-learning courses and students at least twice a week in a face-to-face fashion during the first summer. This meant that whether the student was taking the course asynchronously and/or at a school or kiosk site, the student had to report to a live person for face-to-face support during the course week. Second, NCVPS set expectations that each school's distance learning advisor would use the districts' Connect Ed notification feature to call each parent in a personal and automated fashion regarding results. Finally, if students were still struggling, NCVPS utilized the professional learning communities structure the district was implementing to reach out to other distance learning advisors, parents, and students within the district to provide adult and/or peer tutoring and mentor type support.

Many of these lessons learned contributed to Dr. Setser's 100-day plan submitted for NCVPS when interviewing with J.B. Buxton for the Executive Director Position of NCVPS during the fall of 2007. The first element of that 100-day plan called for a quick, three-pronged needs assessment to formulate a 100-day strategic plan for the organization. This effort was critical upon his hire date of November 15, 2007, in that many school districts in North Carolina were in a crisis of confidence over the continued use of NCVPS.

The first prong of the plan called for stakeholder surveys, face-to-face meetings, and stakeholder phone interviews with members of the current organization. From those interviews and surveys, three themes were captured around core questions: What is NCVPS doing well? What is NCVPS not? What does NCVPS need to change in the next 100 days to serve North Carolina School districts in the spring of 2008? The data captured from this approach propelled prong two of fireside chats with key superintendents.

Again, we chose three questions for outreach to these superintendents: How can NCVPS help you? What is NCVPS doing that keeps you from using the service? What can NCVPS do before the spring semester to make your life easier in the district and/or school environment? These themes comprised the development of a memorandum of understanding that would fuel ten anchor districts during that first spring of 2008 to execute on all that had been learned in a brief time frame.

One of the outcomes of the discovery process involving the aforementioned questions were two key decisions. First, NCVPS at the time existed in two locations: at the Friday Institute at North Carolina State University and at the Cumberland Web Academy in Fayettville, North Carolina. Because of what emerged during the interviews (themes like blame, working in silos, and ownership between Raleigh and Fayettville), we acted boldly and dissolved the Fayettville office. We gave the opportunity to all nine employees to be involved with NCVPS's new strategic plan process and to be evaluated to stay on with the organization in May of 2008. Five accepted that challenge and remain with the organization today. Not only did this decision propel the organization forward, but also those five would help provide valuable insight and talent to our second decision—a strategic planning retreat in early January of 2008. The first video shown at that retreat was a clip from Apollo 13 where Flight Manager Gene Mays listens to an impossible set of tasks only to say, "Gentleman, failure is not an option." Over the course of the retreat, NCVPS evaluated stakeholder data, external evaluations and studies, and feedback on key issues internally and developed the organization's first five-goal, fifteen-objective strategic plan.

The planning from that first retreat has produced enrollment trends that feature 75 percent growth per semester making NCVPS the nation's fifth largest virtual school. Academic achievement has risen to 85 percent per course average, and completion rates are presently in the 98 percent range. Advanced Placement results and End of Course test results exceed state averages, and NCVPS is well on its way to becoming the premier supplemental learning option for North Carolina districts, schools, and students.

These efforts set the stage for the illumination of best in class practices, input and feedback loops for the organization, and the innovative processes that will propel NCVPS forward in the future.

Best Practices

Best practices at NCVPS during that first spring of 2008 until our present learning cycle falls out in several distinct processes. First, we invite our partners, vendors, and various stakeholders in twice a year to look at our strategic plan, make recommendations, and interact with our advisory board. These two semi-annual retreats also comprise two of the four advisory team board meetings in the year. The interesting thing about our retreats is they are blended, extremely cost effective, and model the very tools, strategic processes, and blended learning environments we expect from our organization and our partners.

For instance, our retreats have been held for on-site staff and for external staff during specific feedback loops over our Wimba client and partner. We have simulcast industry leaders into the retreats, and we have also created an interactive Web site to show state leaders how to use *Twitter* for assessment and planning purposes during a blended retreat setting. However, at their core, the retreats have always featured a file sharing process of our quarterly goals and objectives, results obtained, and a process known as a SWOT Analysis. Strengths, weaknesses, opportunities, and threats are evaluated and discussed among all NCVPS stakeholders and/ or stakeholder representative groups (students, parents, school leaders, partners, etc.).

At the end of a blended retreat, a month of NCVPS staff reviews ensue whereby individual work plans are mapped against strategic goals and objectives that were altered, enhanced, and/or abandoned during the retreat. From these outcomes, two best practices emerge in that these plans fuel our e-learning and personal learning community structures for the coming quarter. For background on these two strategies, it is important to reflect back to January of 2008 and share their evolution.

In the fall of 2007, NCVPS had a 1.0 Web site, a Blackboard learning management system, and a conference call bridge for Monday meetings. Due to the wide-ranging number of staff and stakeholders and their geographic location, we developed a coursing strategy that would initially be the seeds of the e-learning community strategy that we now use as a best practice. The concept was that we would use a free wiki client to share and track our weekly agendas and contributions to them via file sharing, discussion threads, and attachments. Throughout the spring of 2008, we referred to this strategy as a "coursing strategy" in that our leadership team was creating a "leadership course" that if one followed back to the origination of the archives, one could easily see how the work flowed and how the organization tracked, monitored, and measured expectations and outcomes.

It did not take long at NCVPS to share very transparent feedback about the limitations of this strategy and to alter it. First, the file sharing had limits. Second, a linear structure was needed for all of the threaded discussion. Third, interaction was limited to e-norms on a conference call. To solve these gaps, the team proposed developing our coursing strategy within our Blackboard environment so we could take advantage of more server space, interactive tools, and a Wimba client. Over the next few months, we also launched Rick and Becky Dufour's *Learning by Doing* book study with the simultaneous goal of virtualizing the study into our approaches with the coursing strategy that was now rolling out in Blackboard.

For example, ground rules in a face-to-face setting now turned into e-norms like limited multitasking during certain points on the agenda. Moreover, we invoked rules like color text for certain divisions on wikis to track project management. In addition, we began to archive meetings and hold staff members accountable for listening to the archive and then posting a voice thread and/or podcast back to the "staff course," as it was then called, to ensure the vision was being both modeled and executed.

Even though we had closed a management loop with internal staff regarding this strategy, we still practiced "failing forward" with our communication strategy off it during the spring of 2008. While our staff environment was robust, we still largely were communicating with teachers, distance learning advisors, and a variety of other stakeholders including the North Carolina Department of Public Instruction via e-mail, snail mail, and phone calls.

To streamline this strategy, Jennifer Nobles in our student services division was the first to propose the idea of our infrastructure being referred to in island themes as she was in the co-process of constructing NCVPS's first presence in Second Life and Dr. Setser was also breaking new ground for the state and organization here by co-presenting with Michael Horne, co-author of *Disrupting Class,* in Second Life as well.

The island structure soon became a second wave of deployment for the organization to cascade leadership down through the overall organization and to stakeholders. Soon, the staff resort was named the Staff Island. From there, the Teacher Boat Dock was created in a Blackboard course so that the Curriculum and Instruction Division, division directors, contractors, and teachers could have an e-learning community to begin to share resources, monitor instruction, and adjust e-learning community approaches based on assessments. This initial hub for learning was invaluable for course revisions and also for monitoring usage and back-end data provided by Blackboard and Wimba as these clients worked in tandem to propel NCVPS forward.

Next, NCVPS added the Technology Tiki, the Distance Learning Advisor Spa, and the Leadership Lagoon to its arsenal of stakeholder shared and generated Web 2.0 learning centers.

While this structure certainly meets all NCVPS objectives, it was not until the fall of 2008 that we began to look at data usage in a meaningful way. What we were finding at that time was that people only used these closed source environments when they were directed there to use a webinar and/or they were utilized during what we categorized as "hot ops" and/or times when school districts and schools were enrolling, dropping, and adjusting kids into NCVPS courses. This data process led us to establish The Virtual Learning Consultant blog at *www.thevlc.org* that became and still remains a key open source presence for all things North Carolina Virtual on the Web.

Adam Renfro's brain child, The VLC, helped his student services work as well as the rest of the NCVPS team in terms of blogging, content sharing, videos, and comments from stakeholders with a very low-impact way to view and use the site. Adam soon followed this project by creating the NCVPS presence on Twitter and Facebook in the summer of

2008, and from there a social media strategy was underway to connect the e-learning communities work that had been borne out of the coursing strategy in Blackboard.

> *"I have been teaching for 17 years and I think NCVPS is the best thing that has happened in North Carolina in my career. I thrive on the relationship I have developed with my colleagues in the English department. I appreciate the opportunity I was given to co-write the AP Language Course. These relationships and writing opportunities are experiences I have not had in the county I teach in these extraordinary teachers are student driven and curriculum focused."*
>
> — Kendra L. Gallos, English III, SAT Prep, North Carolina Virtual Public School

What about saturation? Well, we certainly had an interesting environment to evaluate at the fall retreat in 2008. We had considerably upgraded our own Web site, we had retooled our sister site for dual college enrollment, and we had the coursing environment in Blackboard, multiple archives in Wimba, The VLC, and were building our brand on Facebook.

In 2009, we took a hard look at our student engagement surveys from the Friday Institute and invested heavily into streaming services, site pal avatars, and 3D virtual worlds. We also tracked helpdesk data for parents and students more closely to see what kind of frequently asked questions were often being left unresolved for our users. White paper formation followed for educators, but we also worked more closely with students and parents on course previews and with pre-built student/parent orientation courses in Blackboard.

These innovations led to the formation of roles and responsibilities documents for central points of contacts for school districts. These central office distance learning advisors were privy to weekly e-letters, RSS feeds from our sites, and a videocast series that Dr. Setser began to feature on the main Web site that was connected not only to his blog but also to guest bloggers such as authors who would write about different standards of practice for the local, state, and national landscapes. All of these approaches also cascade to conference presentations and our GO LIVE (Getting Organized to Lead Virtual Education Platform), which was formed in 2010. This site was a key transitional point for NCVPS in that it captured the learning from our anchor and pilot districts and then allowed us to share the best practices in leadership, curriculum, systems, environment, and professional development with the rest of the state in an open source, ongoing training continuum.

Don Lourcey's innovation at NCVPS, GO LIVE, began to collect data through Google Applications, Blackboard, and our helpdesk services to establish trends along with Google Analytics in order to support school districts and school leaders. In addition, GO LIVE provided NCVPS with a very strategic approach in terms of serving our stakeholders.

For example, teacher services began to migrate out of the closed source Blackboard environment and into beta accounts with Google Wave. This allowed content specialists to have running discussions, file share, and wavelets related to objectives and expectations set by the curriculum and instruction division at NCVPS. Professional development opportunities also became more diverse and open in that we could now provide book studies like *The World Is Open* by Curtis Bonk in an effort to broaden teacher understanding behind the "Why" and "What" of e-learning.

In terms of just-in-time professional development for teachers, NCVPS revised its Teacher Boat Dock inside of the Blackboard environment to include the Revision Reef and created strands of differentiated professional development on Twitter for new, experienced, and selected cohorts of NCVPS teachers regarding refresher paradigms and/or train-the-trainer-oriented professional development. Moreover, we continued to provide GO LIVE training for our teachers in blended professional development as well.

Student-based support begins with our preview information for parents on our main Web site and then via external links to Facebook and *MySpace* where the students live. In addition, we have developed a mobile presence on smart phones, and student cultural cafés are very popular at NCVPS so that students can participate in their language courses throughout the semester and not just during the courses they are taking to brush up on skills and continue the immersion effect.

In terms of readiness, the NCVPS Success 101 course continues to be one of our most popular in terms of preparing middle school students for high school credit with NCVPS. This course is a mix of best in class online immersion activities, Cornell note taking, and avid related practices that prepare students for the online environment. In addition to Success 101, it is worth mentioning the NCVPS core philosophy on student readiness for online learning. In 1995, the phrase that permeated education in the United States was "All Children Can Learn." At that time, educators hemmed and hawed with homage to *Who Moved My Cheese* with phrases like "not without parent support," and "not if they are from a minority and/or exceptional children's background." Well, today when NCVPS enters a district, we ask this same question of all of our stakeholders. When they now unanimously agree because of the standards movement in this country, we simply add one word: "All Children Can Learn Online." If you want to get a great discussion going around student support for e-learning, try that "failing forward" strategy on for size one time.

In terms of parents, mentors, and facilitators, NCVPS has three predominant service options for other professionals. First, we support via webinars, list serves, and e-services over 759 distance learning advisors (DLA) in the state of North Carolina. These distance learning advisors range from one with a masters degree and technology expertise to parents who are volunteering at school sites. Turnover is high and the cascade effect is staggering. To explain the cascade effect, it is important to understand how non-strategic traditional schools are. The cascade of support for student learning and/or lack thereof begins with the district superintendent. The following is a typical scenario. He/she loves the concept of e-learning and provides marching orders on deployment to their district. District staff run with the concept and shuffle it down to principals, who also love it. Then it lands on a

distance learning advisor's (DLA) desk. Whether that is at school, full-time, part-time, and/or at home with a parent is incredibly variable in the e-learning sector in North Carolina, and this is where the cascade either works, somewhat works, and/or fails the student.

> *"LEO was a great program that I began during my second semester of my junior year. It has helped my family so much. We have saved a bunch of money. I have completed two years of college for free. I mainly did this for myself. I wanted to be different from everyone. I might not be the first in my class but I have two years of college done. That is a pretty good accomplishment for me. I also did it to show people that it is possible. You can get some college out of the way when you are in high school. I would recommend this to everyone. You save money. It might not be a big deal to students, but students need to think about their parents and need to save money to help them out. I hope that since I have done this more people will see that it is possible to do it. I am not saying that it was a breeze to do because, of course, it was not. The last classes that I had to take were sophomore level college courses. They were difficult but not something that can't be done. This program takes self motivation and responsibility. It was not the easiest thing in the world but well worth it. Thanks."*
>
> — Darci B., East Rutherford HS

In the cases where the cascade is successful, DLAs treat their virtual students like every other student. They attend NCVPS sessions face-to-face and over the Web. They monitor student progress, and they take leadership and training from principals and district staff on blended learning. But most importantly, they "read and lead." This is an often-overlooked skill in all business sectors. We all are inundated with e-mails, social networking, blogs, and print materials, but leaders who are learners first are the ones we find most successful as DLAs. Simply put, they read material, tweet, and follow NCVPS staff, and they learn. They take this learning to their multiple stakeholders in their district, and what results is a strategic operation for a school district like North Carolina State Superintendent of the Year Dr. Donna Peters and her work with NCVPS.

With districts like Dr. Peters's, we find all three NCVPS support models at work. Students are served during the school day through the school media center and/or rotating career and technical education labs. Students are supported through a blended model via early morning periods at school and/or afternoon academies. Or, they may use a kiosk model of support at a local library, church, and/or Walmart where they partner with organizations to use reimaged school computers to support e-learning. Districts like Montgomery have dedicated distance learning advisors that also monitor and support student instruction off-site. Montgomery figures that if a student is taking the course off-site, then the school should have multiple means of phones, e-mail, Facebook, and/or homeroom access points for DLA to track student progress and offer support.

However, Montgomery County is not the norm in student support models. NCVPS most commonly supports districts that are somewhat on board with their role in

supporting e-learning students. Recently, Dr. Setser appeared before a school board who thought it had to limit access to NCVPS to only during the school day due to equity for all students who did not have computers at home. Dr. Setser began his presentation with a great quote from Kerry Patterson of *Crucial Conversations* fame: "Never opt for the tyranny of 'or' when the genius of 'and' is at your fingertips."

Often, district thinking is confined to the time frame of the school day. Therefore, NCVPS does a lot of work around scheduling and showing districts how they can leverage creative schedules for student success and think of supporting e-learning much in the same manner as schools supported freshman academies and small learning communities in early 2000. Once school districts and school improvement teams see this as a "time" issue and not a "technology" issue, the fear tends to diminish and best practices emerge.

NCVPS has worked with partner districts to establish slide schedules to support e-learning, zero periods where coaches monitor a large group of users, rotation labs during planning periods, and the advent of blended teaching models where face-to-face teachers support regular course instruction during the first part of a block and their virtual students during independent study for the second part of the block.

A third strategy of support advocates, first-time parents, and overwhelmed DLAs falls into the context of providing just-in-time support and relief to those on an island of support for e-learning. Standalone DLAs are encouraged to sign up for phone and Web-based browser services as to NCVPS related training. Those parents are also provided a helpdesk and access to our teachers through an instant messaging service called Pronto, where students, parents, and teachers can talk, chat, message over a whiteboard, and share their desktop with one another in a secure environment. While NCVPS is always willing to work within a multitude of service paradigms, NCVPS also tries to funnel parents, advocates, and first-time and/or overwhelmed DLAs back to the multiple options and supports at the schools to augment their experience with NCVPS.

In addition, NCVPS serves as broker for this particular support area between the parent and local school. Each week, our student support division produces a stoplight schedule of green districts that understand, attend, and support NCVPS events and training opportunities. Yellow districts that are hit and miss, and red districts that seldom attend any support efforts in partnership with NCVPS are also evaluated. When this data is cross-mapped to student, parent, and/or school concerns, NCVPS contacts superintendents and principals to resolve the issue. In many cases, these phone calls incite action and the ever-growing j-curve of e-learning impact moves another inch. In the cases where resolution is not reached, NCVPS tries to motivate districts through usage reports, peer district featuring, and blogs where we show case cost-benefit analysis and best in class examples of e-learning in North Carolina.

In the early stages of NCVPS, 88 percent of our content was outsourced to providers. Today we own over 93 percent of our content, with 7 percent still outsourced to Oklahoma State University and Florida Virtual School. The process we engendered in a little over one year is known as the High Five process and involves a multi-level approach to curriculum design

and student support. In addition, it integrates a best in class 10/3 model of technology design that enables all users to have a rich online experience wrapped around quality teaching and quality student support. The High Five process involves teachers on five-person design teams (online teacher, face-to-face teacher in training, Research Development and Innovation Specialist (RDI), Department Chair, and Graphical User Interface (GUI) specialist) working together under a course migration timeline to address five key learning questions.

1. What do learners (teachers and students) need to know? Common Core, PISA, NAAEP, SREB/iNACOL standards, state standards, acceptable use and copyright, teaching online, The Grand Challenges, Web 2.0 and 3.0 tooling, streaming, services, hardware, desktop virtualization, 21st century framework themes, the creation of our services model in each classroom, school, district, or home as well.

2. What else do they need to know? How to design and deliver a classic blended course where each unit is a module, five mobile applications appear in each module, and a blended approach to delivery with flexible learning and adaptable schedules and release. Also, best in class approaches like our innovative 10/3 technology model to be explained in a following section.

3. How will they learn it? An e-learning and portable communities structure forms the repository of information sharing and exchange among all stakeholders. Blended learning plans for each user to include just-in-time "requirements," and "more robust" and longer face-to-face/virtual sessions as scheduled to follow-up on individual educator and student needs is a must in a mostly asynchronous environment. Teachers and students expect in the NCVPS environment to work on their own 70 percent of the time, but they also are diligent in scheduling synchronous sessions, modules, and mobile time frames to stay connected to support and ongoing learning activities.

4. What will we do if they don't learn it? This question leads to mid-course corrections. Our mastery-based credit recovery modules and our e-learning community structure are just two examples of how we adjust instruction every time we learn from assessment. For more depth on these models, see our main Web site. Or, What if they already know it? In terms of differentiation, NCVPS focuses in on this question. NCVPS provides coaches, mentors, trainers, tweeters, buddies, best in class repositories, etc., to share with other districts lessons learned in feature districts across everything from learner support to technology barriers.

5. How will we know if they learned it? Blended learning plans, data from e-learning and portable communities, and reporting from all levels (districts, schools, teams, students, parent surveys, and/or portals, etc.) provide us with data points as to what classic services, which modules, and which mobiles are working in a blended learning environment of NCVPS delivery and school/district execution.

Course-based services for NCVPS all wrap around our innovative 10/3 usage model. The first assumption in this model is that most semester and/or online courses can be broken down to contain 10 units and/or power standards. If you accept this premise, then a best practice at NCVPS has been to have teachers using the five-question approach to ensure that each unit can also represent a standalone module. In each module then and over the life of the "classic

course," we want to ensure that all modules and the entire course answer the question of "What do students need to know?" We must be better than the face-to-face here and ensure alignment and rigor in all courses and modules. This divisor is called the 10/1 part of the model.

> "We had one student last year who had no other way of graduating than taking the course second semester. She is the first of her family to graduate from high school. She was heartbroken in January when I told her she could not graduate. Then the online opportunity came along and it gave her a chance that otherwise would not have been possible for her family."
>
> — Teresa H., Counselor, Shelby High School

The 10/2 pieces fall out in "How will they learn it?" In each module, how many podcasts, videos, wikis, blogs, etc., are present to ensure Web 2.0 interaction, while providing a technology scale for bandwidth and usage issues for the schools and districts? For example, voice threads may be a great way to learn, but one module does not need to contain five opportunities to use them with 30 students each posting for over five minutes. Setting guidelines for use helps both our instructional value at NCVPS and our return on investment for our software and hardware purchases.

The 10/3 piece of our model picks up assessment: How will we know they've learned it?—differentiation: What if they don't learn it?—and enrichment: What if they already know it? These tools and processes in course design include Safe Assign, online grade books, and TurnItIn, to assess different facets of these three questions. As NCVPS adds more mobile learning applets to its overall strategy, the expectation for learning, unlearning, and relearning on devices like the new iPad will also become more integrated into how we support this type of infrastructure in the 10/3 model.

As teachers meet in design processes at NCVPS, they regularly prepare reports on the 10/3 model and the five questions to inform the overall organization planning. Students provide feedback on which tools, processes, and engagement pieces inside of the 10/3 model allow them the most flexibility, customization, and opportunities for student inquiry and feedback.

Future Plans

NCVPS's enrollment growth will continue on a trajectory that will see us become the second largest virtual school in the nation by 2015. With a projected 100,000 enrollments by that time, the issue will be maintaining course quality, rigor, and student achievement in a state virtual school environment.

With a new funding formula fully entrenched by 2015, the hope is that we will be one of two things by then—an LEA or a virtual charter. Both horizons have pros and cons.

First, both offer us the opportunity to become a fully accredited and not supplementary service. Second, we can scale operational and positional growth to keep pace with the exponential enrollment and teacher compensation challenges we face today. Third, we can be far more nimble and innovative outside of the constraints of state agency relationships that often promote compliance rather than innovation.

However, there are many negatives to moving away from our current structure. First, if we become our own LEA, current state LEAs will interpret this as competition for state dollars. Misinformation and hording behavior will occur, and we would anticipate a growth and perhaps a service dip during this time. If we become a virtual charter, the politics of the left and the right side of the aisles could make NCVPS a political football and force us to compete in the open market against other for-profit e-learning providers. While we would welcome this challenge, the conversion from state asset to state competitor is fraught with economic and political hurdles.

Therefore, what is needed is a strategy built around the notion of learning services over a learning cloud for North Carolina leaders and learners. Through a learning cloud of classic online, modular online, mobile, and blended learning and teacher hardware and software services, North Carolina can lead the nation in public education with NCVPS setting the pace as the lab school or lab service for the rest of North Carolina.

A statewide learning cloud is already underway among our e-learning commission and portal at *www.elearningnc.gov,* and our future plans at NCVPS include adult GEDs, job retraining for economic development, and blended service options to support all learners in a community, not just students in our K–12 population.

At present we are constructing our teacher training programs to create these four service option capacities in our teachers. We are training leaders to become proficient in supporting, managing, and innovating these models in their districts. Moreover, our four service options appear in everything from our twelfth place finish in the Race to the Top application as a state to how the common core standards will be rolled out at the North Carolina Department of Public Instruction.

As we execute on the 10/3 model for classic online courses, we must also tap social networking sites and become more open source through *the Moodle learning management system* and/or open source architecture and games like *Urgent Evoke* and/or Florida Virtual's Conspiracy Code at *http://www.360ed.com/.*

NCVPS will continue to "fail forward." We will continue to eat barriers for breakfast. Our entire orientation is around "problems down, solutions up" behaviors, and we feel well positioned to be a national leader in cloud learning solutions as we move forward into the space of learning services for North Carolina students.

Links

Blackboard: *http://blackboard.com*

Center for Digital Education: *http://www.centerdigitaled.com/*

Creative Scheduling: *http://www.schoolschedulingassociates.com/*

Dr. Donna Peters e-champion: *http://www.thevlc.org/2009/10/what-are-you-tight-on.html*

E-learning commission: *http://www.elearningnc.gov/about_the_site/*

Facebook: *http://facebook.com*

GO LIVE: *http://sites.google.com/site/ncvpsgolive/*

Governor Beverly Perdue: *http://www.governor.state.nc.us/*

International Association for K–12 Online Learning: *http://inacol.org*

Kathy Taft Funeral:
http://newsobserver.com/2010/03/13/387795/hundreds-gather-to-mourn-kathy.html

Keeping Pace with K–12 Online Learning: *http://kpk12.com*

Learn and Earn Online: *http://nclearnandearn.gov*

Michael Horne and Dr. Setser in Second Life: *http://www.bookosphere.net/michaelhorn/*

MCNC: *http://mcnc.org*

North Carolina Department of Public Instruction: *http://www.ncpublicschools.org/*

North Carolina Virtual Public School: *http://ncvps.org*

NCVPS retreat Web site: *http://sites.google.com/site/ncvps2010retreat/*

NCVPS Second Life Island:
http://slurl.com/secondlife/North%20Carolina%20Virtual/139/156/32

Parade of Solutions:
http://sites.google.com/site/ncvpsgolive/best-in-class-a-parade-of-solutions

SAS: *http://www.sas.com/*

Sitepal: *http://sitepal.com*

Links, cont.

Survey Monkey: *http://surveymonkey.com*

Teleplace: *http://teleplace.com*

Twitter: *http://twitter.com*

Wetpaint: *http://wetpaint.com*

The World is Open Book Study:
http://sites.google.com/site/ncvpsgolive/book-study-world-is-open

Wimba: *http://wimba.com*

The Virtual Learning Consultant: *http://thevlc.org*

South Carolina Virtual School Program

Deirdre Appleby, MSA, MCSE, Director, Office of eLearning, Division of Standards and Learning, South Carolina Department of Education

The South Carolina Virtual School Program (SCVSP) provides high-quality, standards-based online instruction to the students of South Carolina, to supplement and expand the conventional school day with effective alternatives to deal with economic, staffing, and scheduling issues in an effort to increase the graduation rate in South Carolina.

http://scvspconnect.ed.sc.gov/
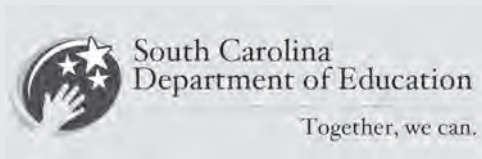
Historical Perspective and General Overview

South Carolina has made enormous strides over the past decade in improving education, earning national accolades, and raising performance to the national average on many indicators of student achievement. Still, as is the case nationally, far too many of South Carolina's students leave school without earning a high school degree, too many are poorly prepared for the world beyond high school, and too many fail to progress in college long enough to earn a post-secondary degree.

Background and Introduction

"Virtual school has met our needs for students who need classes that are not available at a particular time but are required. VS teachers have been excellent communicators. We have some students who miss deadlines. VS teachers keep me informed so that I can "encourage" students who need it.

Whenever I did have a question concerning enrolling into a class or how to log onto the site, someone was always there for assistance.

My questions and concerns are addressed in a very timely manner. I love having Virtual School as an option for my students!"

Currently in South Carolina, 213 traditional high schools, 17 charter schools, and 93 alternative schools are serving over 221,000 students in grades nine through twelve. Fifty-four percent of the state's high school students are white; 39 percent are African American; 5 percent are Hispanic; 1.5 percent is Asian; and .21 percent is American Indian. Nearly 53 percent of these students qualify for free- or reduced-price lunch. Nearly 13 percent are classified as having special needs, and 9.8 percent are older than is usual for their grade level. Approximately 10.9 percent qualify for gifted and talented programs.

South Carolina's high schools come in a wide range of sizes, from just under 200 students to more than 3,100. Over 75 percent of all secondary schools in South Carolina have a poverty index higher than 50 percent, including 64 high schools with poverty indexes over 80 percent. The state's high schools employ 13,549 full-time teachers. A majority of these teachers (56.6 percent) have advanced degrees, and 93.1 percent are "highly qualified" under No Child Left Behind guidelines. Only 11 percent of teachers at the high school level are employed through emergency or provisional certificates.

In May 2005, the state superintendent and community leaders convened the South Carolina High School Redesign Commission to study the latest research on high school initiatives that promote high achievement and to make recommendations for future state action. Business and community leaders, parents, pre-K–12 educators, and representatives from higher education spent months reviewing the research and visiting high schools to determine the most effective strategies. From its study, the commission learned what high schools can and must do differently and what South Carolina as a state must do to provide structures that contribute to success. The full report can be located at: *http://ed.sc.gov/agency/offices/hsr/documents/HighSchoolCommissionReport.pdf*

The task facing South Carolina's high schools is to graduate more students with the knowledge and skills that employers and colleges expect and to ensure that they all have the rigorous preparation that will equip them for a lifetime of learning and productive, rewarding work. Accomplishing that task will require three central objectives: expanding and accelerating opportunities for students who are actively engaged in their education, fully engaging students who are just muddling through school, and recovering students who are so far behind and disengaged that they are at risk of dropping out.

In addition to the commission's report, the state legislature passed the 2005 Education and Economic Development Act (EEDA), which called for an overhaul of the state's education system. This legislation retains the academic "core" of seventeen required credits and seven elective courses that comprise the curriculum for all South Carolina high school students; however, it retools education from kindergarten through twelfth grade to help students match their school work with their career objectives. The initiative's ambitious goal is to remake education in a way that boosts the payoff from students' academic efforts by placing them in the context of career preparation.

The EEDA requires that all high school students declare a "career major," setting aside high school electives for courses in a specific area, or "career cluster," of study. Students interested in becoming doctors or nurses, for example, would take elective courses geared toward health care. Students would also have the opportunity for out-of-classroom learning experiences as part-time observers and workers in real working environments. The full report can be found at: *http://ed.sc.gov/news/more.cfm?articleID=587*

The South Carolina High School Redesign Commission recommended 55 strategies, both general and specific for subcommittee focus, to strengthen the state's high schools. Of those recommendations, the fourth recommendation states: "South Carolina should mandate and fund alternative pathways to graduation to assist students who are behind academically and to foster individual progression through high school. Options should include the following:

- Virtual high schools to enhance classroom learning, equalize opportunities among districts, and promote individual progression through school;

- Content-recovery labs provided during or after the school day to enable students who have fallen behind to complete courses and get back on track; and

- Extended school day or extended school year programs to meet increasing expectations and goals and to ensure that students have opportunities to catch up, keep up, and get ahead with academic course work."

Development of the South Carolina Virtual School Program

Based upon the commission's recommendation, in November 2005, an official "kick off" meeting was hosted at the South Carolina Department of Education (SCDE) by the Office of Technology and the Office of High School Redesign. Representation included participants from all areas of the SCDE, districts, higher education, community, and business. The objective was to inform the group of online learning opportunities for students and start discussion on how to plan and implement online learning statewide.

In January 2006, South Carolina district virtual school initiatives were presented to the online learning committee. This informative session included presentations by six SC districts that were currently offering online learning to their students: Lexington 1, Richland 2, York 3, Orangeburg 4, Greenville, and Horry County School Districts. Presenters discussed their programs and shared "lessons learned."

The SCDE online learning committee attended a leadership-training seminar presented by the Florida Virtual School at Orangeburg-Calhoun Technical College. Topics included virtual school models, identifying needs, funding and budgeting, gaining stakeholders, establishing policies, and ensuring quality online curriculum.

"The Virtual School has been a very positive experience. The staff is always helpful. The program has helped our student earn credits for graduation. I don't know what we would do without it."

In March of 2006, The Online Learning Planning Course began. Forty participants from K–12 education, government, business, higher education, and community entities took part in this six-week planning exercise to develop a solid foundation to begin a statewide virtual learning initiative. These participants volunteered to be part of this group based upon their interest in online education, the changing opportunities that it allowed students, and the growing need to see technology used in schools to enhance the learning inside and outside of the classroom.

In May 2006, the SCDE launched the SCVSP Pilot to explore the feasibility of virtual schooling for the state. The pilot was designed to give the SCDE the opportunity to test its online learning course management system (Blackboard), its registration system, and its quality assurance measures. More broadly speaking, the pilot gave the agency an opportunity to gauge the need for and response to the program around the state, as well as its strength in supporting other initiatives, such as High School Redesign, and in meeting legislative mandates to give all students equitable access to high-quality instruction.

Ten school districts, each with an existing online learning program and experience in developing, providing, and supporting online courses, collaborated with the SCDE on the pilot project. Through these districts, students throughout the state had the opportunity in summer 2006 to enroll in 30 different virtual school courses, including Algebra, Geometry, English, Web Design, and Global Studies. Funding from the state pilot program allowed each district to provide 20 seats free of charge to students. The SCDE also provided seats in English II and Algebra II courses at no cost to students. Students were selected from each pilot location to participate in these two courses so that assistance could be provided on-site if help was needed. In selecting these courses, the SCDE reviewed virtual school provider programs and chose the courses whose content most closely aligned with the South Carolina academic standards. Courses were taught by certified teachers and required an on-site mentor to help facilitate the courses.

On December 13, 2006, House Representatives Rice and Walker, members of the House Committee on Education and Public Works, pre-filed a motion to establish the SCVSP. On January 9, 2007, this bill was introduced as HJ-57. During the next several months, meetings with the SCDOE and the House Committee on Education and Public Works met to define terms and gather a better understanding of how this program would work statewide, what type of funding was needed, and what type of support would be required.

According to Bill H3097, the SCVSP was established as follows:
(*http://www.scstatehouse.net/sess117_2007-2008/bills/3097.htm*)

> *An act to amend the code of laws of South Carolina, 1976, by adding Chapter 16 to Title 59 so as to provide that the State Department of Education is authorized to establish the South Carolina Virtual School Program, to provide requirements and procedures for the virtual school program, to provide for certain online course credits, to provide for the students eligible to participate in the program and for the qualifications of teachers and instructors in the program, to provide for an online pilot program to determine the feasibility of providing the virtual school program to students enrolled in adult education programs, to provide for an annual report to the General Assembly by the State Department of Education on the program and for other duties of the Department of Education in regard to the program, and to provide that implementation of the program is contingent on funding being provided by the General Assembly.*

Administration and Policy

The SCVSP is housed in the Office of eLearning at the SCDE (Figure 12-1). The program organization works in collaboration with other units within the office, such as Instructional Technology, Instructional Television, Enhancing Education through Technology, and South Carolina's Online Professional Development program.
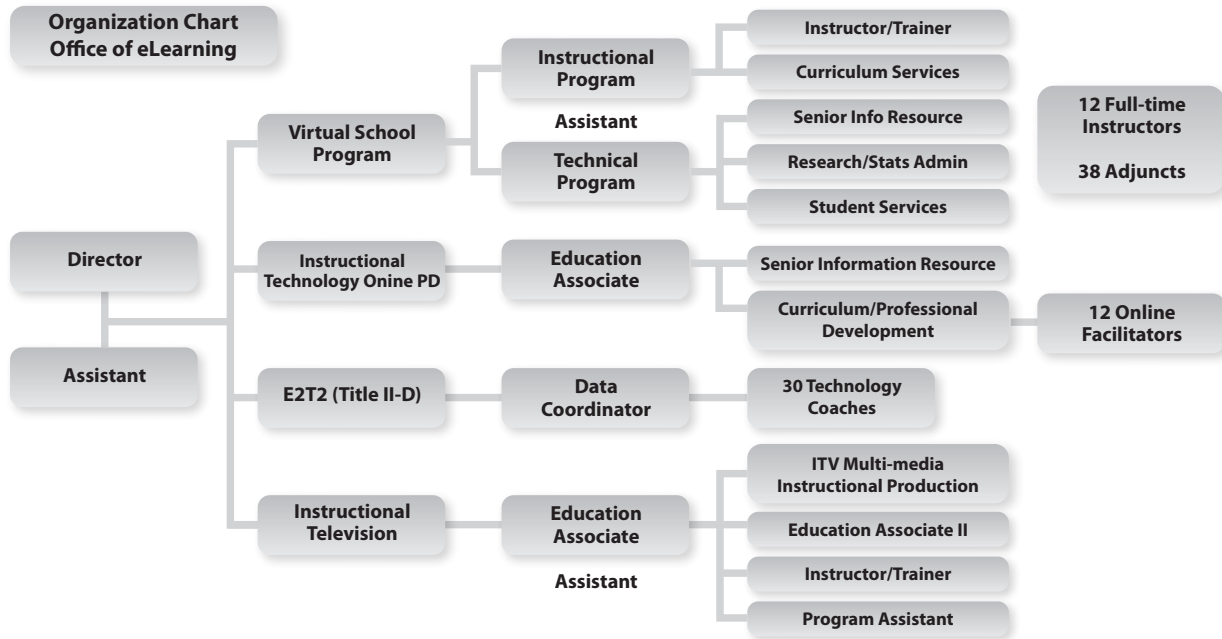
Figure 12-1. SC Office of eLearning

The mission of the Office of eLearning is to develop and deliver standards-based, student-centered online instruction to expand educational opportunities and 21st Century Skills for a smooth K–20 transition and to offer professional development to teachers and expand the scope and depth of their instructional skills.

The Office of eLearning provides the educational opportunities needed in areas of the state where barriers of time and place and the lack of qualified faculty limit districts. The Office of eLearning believes that high-quality education is possible today for all students and educators in all locations. An innovative, standards-based curriculum delivered online offers diverse, exciting learning choices for students or teachers, and the opportunity and skills to participate in a national and global community. South Carolina Online Professional Development (SCOPD) and the SCVSP are proven, flexible solutions for schools needing an expanded curriculum, teachers seeking new horizons, and parents wanting more involvement with their children's education, and they are communication resources for building communities for lifelong learners.

The Office of eLearning's vision is to be the leader in online education by working collaboratively with districts, high schools, and agency divisions to offer the highest quality courses available for students and educators.

The SCVSP used the (SREB) Southern Regional Education Board "Cost Guidelines for State Virtual Schools" publication to assist with the cost structure and organizational structure for managing a state-run virtual program. Its organizational structure consists of 20 full-time instructors teaching in a variety of core course content areas and 8 support personnel, which include the two Program Managers, one technical, one instructional, a webmaster, evaluator, helpdesk specialist, training coordinator, curriculum specialist, and administrative assistant (see Figure 12-1). The Office of eLearning also supports the SCVSP staff with our Instructional Technology personnel who manage the overall learning management system that houses the SCVSP content and SCOPD courses.

The SCVSP provides students an online education environment with effective tools that help keep the journey engaging, interactive, and rewarding along the way. The SCVSP provides students with a centralized registration system and creates an effective and efficient means of working with and communicating with students, their schools, and their parents. Open forums and monthly trainings are held via Elluminate to answer any questions a parent or guidance counselor may have. Dates and deadlines are posted on the program's Web site. A monthly newsletter is sent to school sponsors and registered parents, and is posted on the SCDE Web site with additional information. Communication for private, public, and home-schooled students once enrolled in a course is managed through our Virtual School Administrator System (VSA). VSA monitors the courses provided, helps to remediate problems, and assesses the progress and success of students. In addition, through this registration system, the SCVSP is able to collect and provide data for the state to ensure accountability and alignment between SCDE goals and the program's success.

State-certified and highly qualified instructors, many of whom hold advanced degrees and National Board Certification, guide South Carolina students through their courses.
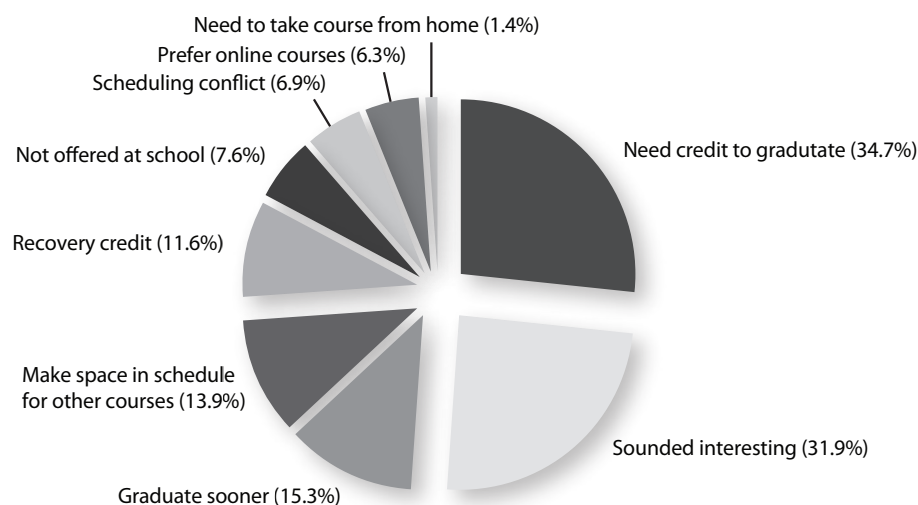
Outcomes and Lessons Learned

In its efforts to gather feedback and assistance with providing quality online delivery and online instructional content, the SCDE contracted with the International Society for Technology in Education (ISTE) and International Association for K–12 Online Learning (iNACOL) to conduct an evaluation of the pilot and a needs assessment. The ISTE evaluation focused on two major data collection activities. In August 2006, ISTE evaluators met with the SCVSP coordinator and others involved in state-level planning, reviewed pertinent documents, and interviewed educators in seven school districts and one college serving as pilot sites. The goals of the interviews were to gather information on the need for and conditions of online learning and to assemble best practices, common concerns, and policy implications. During the interviews, district educators shared feedback on the virtual school pilot and what they have learned from their own local virtual programs: what students they serve, services they offer, what criteria guide the selection of course providers, and what elements were key to successful programs. Prior to

face-to-face and phone interviews, the evaluators sent pilot site contacts a protocol to frame the discussions. These interviews were updated in November and December during telephone interviews with the same contacts. Also in November and December, ISTE surveyed students, teachers, and counselors who participated in online courses in summer and fall 2006. The surveys were conducted online via Web-based forms. The links to the forms were disseminated by the SCDE through the virtual courses and by e-mail. Selected results are presented below.

Reasons for participating in virtual classes—Students

Students could choose from a menu of reasons for taking an online course and could add their own as an open-ended response. Approximately half of the students cited discretionary reasons (i.e., they took the class because they wanted to), and about half cited requirements of the system or dictates of adults (see Figure 12-2). Besides the response options on the menu, other reasons proposed for taking classes included that an adult (teacher, counselor, or parent) had required it and that the student had a particular subject interest (e.g., SAT preparation). Forty-two (29 percent) of respondents cited multiple reasons.

Need to take course from home (1.4%)
Prefer online courses (6.3%)
Scheduling conflict (6.9%)
Not offered at school (7.6%)
Recovery credit (11.6%)
Make space in schedule for other courses (13.9%)
Graduate sooner (15.3%)
Sounded interesting (31.9%)
Need credit to gradutate (34.7%)

Figure 12-2. Student Reasons for Taking an Online Course (N=144)

A little more than half of the students (55 percent) reported hearing about their courses through the school guidance counselor, and about a third (32 percent) heard about courses through their teachers. Other sources of information were friends, parents, and general sources such as the Internet or the newspaper. These proportions were similar to those reported by guidance counselors, half of whom said that they were the source of student referrals to the courses, followed by teacher recommendations (21 percent). Of 34 counselors who responded to a question about the variety of student inquiries, only seven (21 percent of item respondents) said that most students knew about online courses. Equal numbers (11 or 32 percent) felt that either few students know about the courses or that the only students who were aware of the program were those who needed extra courses to graduate. Two felt that only the better students were aware of the program, and three did not know.

Reasons for participating in virtual classes—Teachers

Most teachers gave multiple reasons for being interested in working online. The most common was to gain online teaching experience, followed by a desire for additional income and for having a flexible teaching schedule. More than half of the teachers also expressed an interest in developing online instruction and in promoting online learning (see Figure 12-3). Other reasons cited by single individuals included an interest in self-paced instruction, a belief that virtual schooling is a needed resource, and a love of the subject matter.
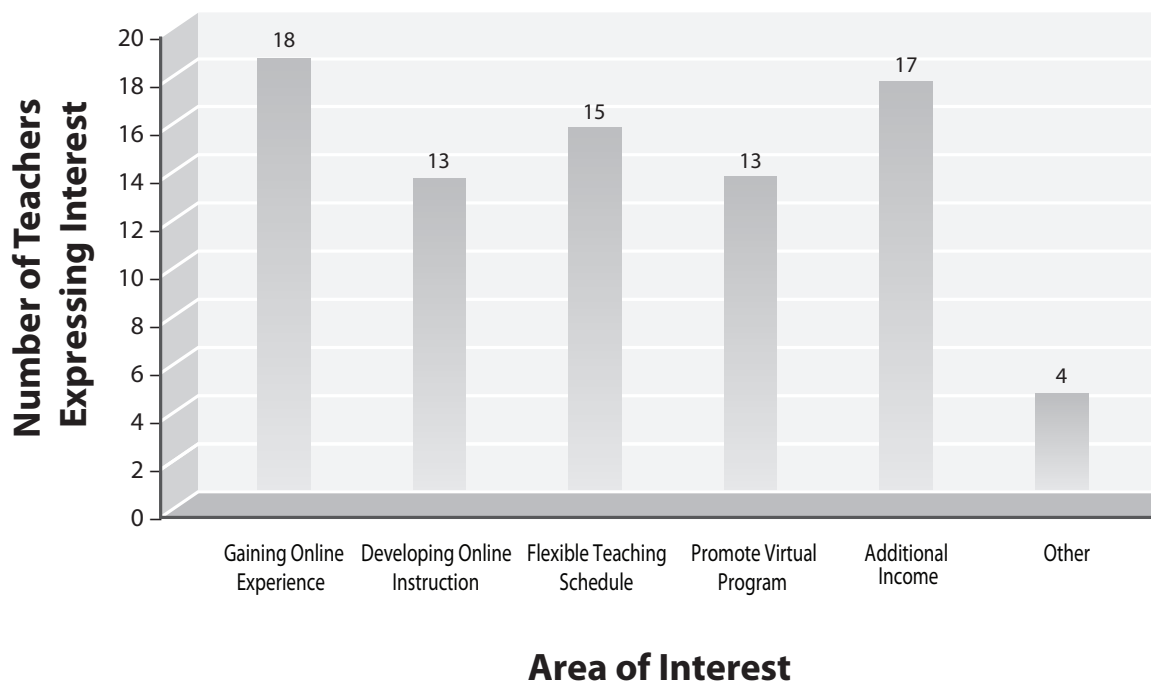

Figure 12-3: Teacher Interest in Virtual Schooling

One set of items on the teacher survey asked respondents to rate the preparation of their students prior to taking the course. The four-point scale included the ratings "Inadequate," "Somewhat Inadequate," "Generally Adequate," and "More than Adequate." Most (17, or 74 percent) felt that students were "inadequate" or "somewhat inadequate" in terms of work habits and time management. Other areas where at least half of the teachers identified issues were content knowledge and background, communication skills, and general comfort online (see Figure 12-4).

Teacher Perceptions of Student Preparation for Online Learning
(Responses as percentages, N=23)
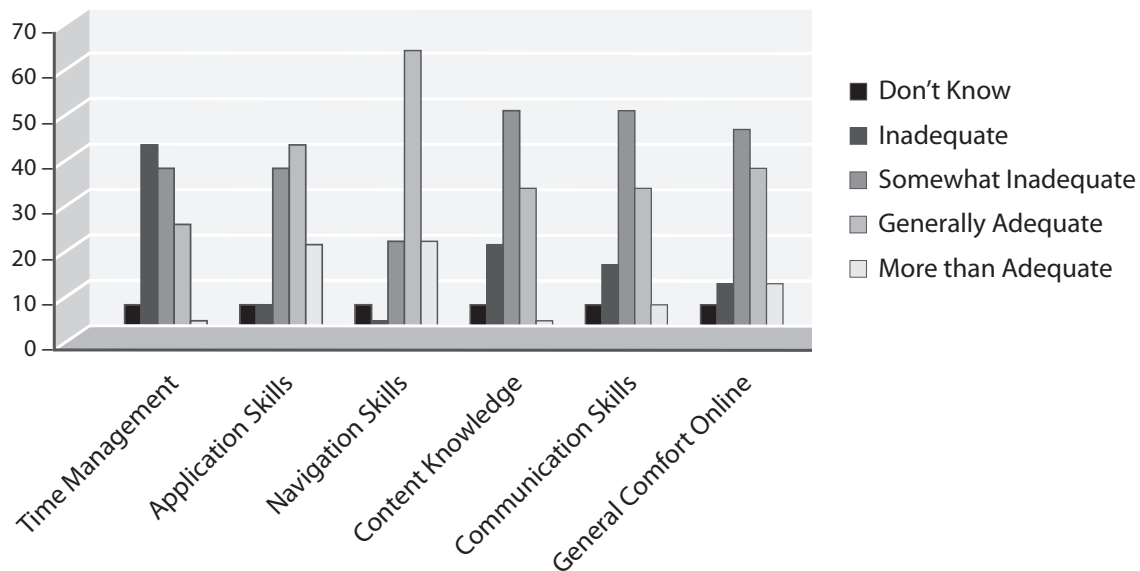
Figure 12-4. Teacher Perceptions of Student Preparation for Online Learning (Responses as percentages, N=23)

In open-ended comments, teachers emphasized that online learning requires a high level of motivation, and some students may require face-to-face monitoring to help them stay on top of their work.

Reasons for participating in virtual classes —Guidance Counselors

"I wish to thank you for giving your time to the Virtual school program. Without this program my son would have been forced to go to school another full year for just 2 classes, though he would have been forced to take 4 classes which makes no sense. I wish to thank you for the help provided to my son during the course. Thanks again and God bless!"

Of the 28 guidance counselors who responded to a similar question about student preparation, half (50 percent) felt that work habits and time management were issues, and 63 percent had concerns about content background (see Figure 12-5). The counselors were less concerned about the students' communication skills and general comfort online.

Guidance Counselor Perceptions of Student Preparation for Online Learning
(Responses as percentages, N=28)
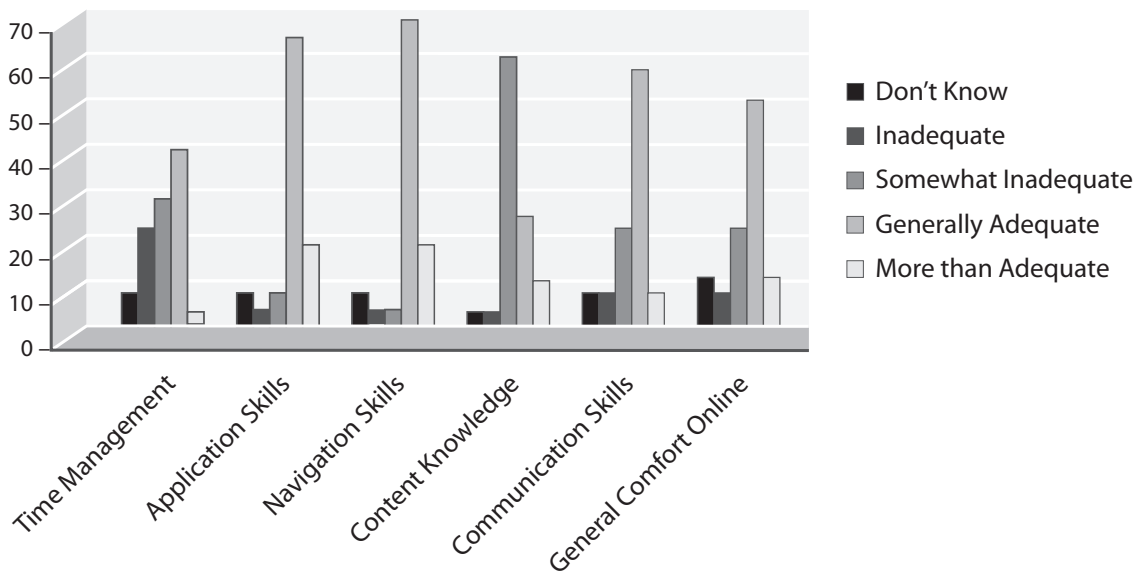
Figure 12-5. Guidance Counselor Perceptions of Student Preparation for Online Learning (Responses as percentages, N=28)

Although students were not asked this same question on their survey, their open-ended comments tended to corroborate the educators' concerns. Of 116 students who responded to the prompt, "What would you do differently the next time you take an online course?" thirty-nine (34 percent) mentioned time management and preparation. Twenty-seven students (23 percent) said that they would need to work harder. Sixteen students (14 percent) mentioned communicating more with the teacher.

Of 139 students who responded to the question, "Did the online course differ from what you expected?" seventy-five (54 percent) said it did. Eighty students offered comments about the differences, the most common (55 percent) being that the course was harder than expected. Twenty-nine percent said that they need more assistance from the teacher. Thirteen percent specifically mentioned that the pace was faster than expected. Some students clearly did not know what to expect. Some were surprised that they did not have a "real" teacher to help them. Some were surprised that the course involved quizzes.

In an effort to better understand how the SCVSP can be a valuable resource to districts, schools, and students, the SCDE conducted an online Needs Assessment survey conducted by iNACOL and launched on December 15, 2006. The target audiences for this Needs Assessment were the "school customers" of the state-led virtual schools. This included school counselors, assistant principals, principals, directors of curriculum, and other district personnel as appropriate. The questions were grouped into three categories:

- Baseline information about the responding school/district

- Current usage of online courses and services

- Level of need and interest in online courses and services

The Need Assessment revealed the following seven key findings:

- Over 50 percent of respondents state that utilization of online learning is a part of their school's overall school improvement/academic plan, with 44 percent saying that online learning was a "very important" part of their overall improvement plan;

- The two most commonly given reasons why schools/districts use online courses are:

  - To offer "catch up" curriculum for high school students

  - To increase graduation rates;

- The participation rate of online courses for content-recovery purposes is approximately 70 percent, with approximately 55 percent also using online courses for first-time full-credit courses;

- The reason most commonly given for students NOT enrolling in online courses is a lack of student awareness that online opportunities exist;

- Providing online courses and remediation to students who were unsuccessful in a traditional classroom setting and for students needing remediation is rated as the highest need for online learning to address;

- English I and Algebra I are identified as the courses in which online content recovery is most needed; and

- Algebra I is the subject in which online remediation opportunities are most needed.

Best Practices

According to Harasim's (2000) work on the paradigm shift in online education, five attributes distinguish work in an online environment from traditional face-to-face work:

- Many-to-many (group communication)

- Any place (place-independence)

- Any time (asynchronicity, time-independence)

- Text-based (enhanced by multiple media)

- Computer-mediated messaging

The SCVSP has developed a set of best practices by teachers with these attributes in mind. The following are practices that the SCVSP has learned are crucial to the successful development, implementation, evaluation, and promotion of a virtual school program:

Online teachers have their entire class organized before the first day of class begins. This helps the students know what is expected of them and ensures the students' highest level of success in the online classroom. Students and their parents/guardians are required to complete a Welcome Call with the teacher of the course prior to the beginning of the course. The Welcome Call is a conversation with student, parent/guardian, and SCVSP teacher on the phone at the same time. In this vitally important call, the SCVSP teacher makes certain that the student is correctly placed, is prepared with necessary information to start the class, and that both student and parent are aware of key information essential to student success.

SCVSP teachers also follow a very specific ten-day drop policy. During the first ten days of an SCVSP course, students can initiate a withdrawal or be withdrawn by the teacher with no penalty to the student's GPA. During this ten-day window at the beginning of a course, SCVSP teachers follow procedures to ensure that students use this time to make certain the course is appropriate for their needs and that they are working effectively and likely to succeed.

This ten-day drop procedure involves teachers creating assignments that fully introduce the students to the rigor of the course so that the student is aware of what challenges to expect throughout the course. The teacher follows up with the student at specific intervals throughout the ten-day period. The ten-day schedule for teachers is as follows:

Day 1: Send a welcome message, syllabus, and pacing guide to the student

Day 2: Monitor student work

Day 3: Check to see that the student has submitted the introductory assignment as requested and respond to the student

Day 4: Contact any student who failed to submit the introductory assignment on day 3

Day 5: Check to see that the student has submitted the second assignment as requested and respond to the student

Day 6: Contact any student who did not submit the second assignment.

Day 7: Monitor student work

Day 8: Check to see that the student has submitted the third assignment as requested and respond to the student; if by the third assignment the student has not completed any work, issue the student a No Contact Letter

Day 9: Monitor student work

Day 10: Drop any non-performing students using the Withdraw No Grade procedure

This year's implementation of Welcome Call and Ten-Day Drop procedures reduced telephone and e-mail requests for assistance to SCVSP Student Services and the need for live chat support by approximately 25 percent during the beginning of enrollment periods. Students now have an increased understanding of both what is expected of them and how to successfully navigate courses.

Collaboration, communication, and digital citizenship are emphasized in SCVSP courses. Attempting to establish norms of behavior with regard to technology use is what digital citizenship is all about. Definitions of the term vary, but all share common elements. ISTE's National Educational Technology Standards for Students (2007) state that students should "understand human, cultural, and societal issues related to technology and practice legal and ethical behavior" (*www.iste.org/nets*).

SCVSP instructors design and instruct courses with a focus on interactive lessons. Online teachers foster student learning, collaboration, and community through group activities, conferencing tools such as Elluminate, and discussion forums.

One English instructor shares her philosophy regarding course methods: "Students in English courses are required to publish many of their essays to the course forum. Publishing to classmates, as well as the instructor, gives the online student the motivation to review and revise writing. The conversation that blooms from these posts builds a respectful, academic community in the course."

The focus on collaboration in SCVSP courses makes them truly student-centered. World Language courses do not need to sacrifice oral speaking practice. Students meet weekly in the Elluminate Live conferences to listen and speak in Spanish with their instructor and classmates.

Online teachers use a variety of technology in their online classrooms like streaming video or widgets to illustrate a concept to students. For example, in our Science courses we use Gizmos at *www.explorelearning.com* for simulations and experiments. One of the first questions science instructors at the SCVSP are often asked by parents and guidance counselors is, "What about labs?"

At the SCVSP, we use a variety of virtual labs and simulations in all of our science courses. One of the benefits of virtual labs is that they allow students to manipulate so many variables; an ecology experiment that would take three weeks takes an hour to produce results. If you wonder what would have happened to your results if you had designed the procedure differently, just tweak your settings online and let it run again!

Biology I students use the Mouse Genetics Gizmos I and II to breed virtual mice, determine their genetic backgrounds, and predict the outcomes of future crosses. These virtual labs allow students to explore simple genetics in a way that would be almost impossible in the real world; for one thing, such repetition would create way too many mice! In Mouse Genetics I, students breed light- and dark-colored mice to determine which trait is dominant, and then use those results to determine the probabilities of different

types of offspring using simple Punnett squares. In Mouse Genetics II, students look at two traits, fur color and eye color, to discover that the complexity of their predictions increases exponentially. These two simulations allow students to test their ideas and discover the laws of Mendelian genetics through experimentation, just as Mendel did.

The SCVSP has increased its technology capacity through monthly training in new technologies including delivery options such as Jing videos and podcasts, as well as course-specific online tools. The level of technology used by the SCVSP has increased at a rate of 56 percent per year. These increases are not arbitrary; rather, they have come as a response to teacher requests.

This is not to diminish the previous technologies that were in place. Responses to a 2010 survey of SCVSP instructors and adjuncts did not indicate a significant drop-off in any technology options with the exception of Blackboard, which was recently replaced by Moodle as the learning management system (LMS). The level and capacity of technology in the SCVSP continues to see positive growth. While the level is likely to be maintained due to experience and budgetary restraints, the capacity is likely to increase as teachers gain more experience with the available technology options.

Online teachers use a variety of communication techniques to encourage their students' success. Among these are course announcements sent from within the online classroom. The Moodle LMS provides the opportunity for online teachers to send general announcements and reminders directly to a student's personal e-mail address. These announcements are generally sent on a weekly basis and range from due date reminders to notes pertaining specifically to course content.

SCVSP teachers also make personal phone calls to students throughout the course. All students are called personally before the beginning of each course. The teacher seeks to talk to both the student and the parent or guardian in an attempt to make a personal connection that will exist throughout the course. Additional calls are made throughout the course in an attempt to keep the student on pace and provide any additional help the student may need.

Other forms of communication include VSA messages to the student, parent/guardian, and school guidance counselor. The VSA platform serves as the main messaging center for SCVSP. All correspondence between the online teacher, student, parent/guardian, and guidance counselor are recorded in the VSA "Contact Log" for future reference. In addition, messages are also sent to both parent/guardian and guidance counselor via their personal e-mail addresses.

SCVSP teachers respond promptly to student questions and concerns via e-mail, telephone, or instant message. Teachers respond to all student inquiries within 24 hours.

Online teachers who communicate and promote a positive learning environment in the online classroom set the pace for the entire course and for the success of the students. Effective teachers foster positive learning through group activities and by giving each student a voice in the online classroom.

For example, every course has a discussion forum where all students and the teacher engage in meaningful conversation around current educational topics. Another example is group communication and RSS feeds that remind students of assignments, deadlines, etc., and to encourage successful interaction and completion of the course.

The SCVSP runs and supports a data server for all courses and a repository of files integrated into each course. IT professionals help with various programming requests and maintain this server. Physical and data security, exceptional server availability, and high-bandwidth capacity are features of the SCVSP technical infrastructure. The LMS interface has been upgraded to provide increased service and capability to serve the students across the state.

SCVSP course content meets all South Carolina state assessment requirements. Two independent evaluators and one SCDE curriculum specialist certified in their respective curriculum areas and trained in online teaching pedagogy and practices evaluate each course. Academic courses are licensed for a fee based on negotiations for statewide contracts. Cost savings are passed on to participating school districts. Unless specified, all courses are self-contained and provided at no cost to students.

The SCVSP offers instructors several professional development opportunities. New instructors are provided with a two-day development session to learn about the policies, procedures, and tools used by program. The two-day training session provides new instructors with all of the information and skills that they need to begin teaching online courses.

Instructors are also provided ongoing professional development opportunities while employed with the SCVSP. Full-time instructors are offered annual professional development opportunities to learn more about teaching online, as well as best practices for teaching in an online environment. Recently, instructors participated in a seven-week session through EdTech Leaders Online to learn about facilitating virtual school courses. The course offered instructors best practices in virtual school course instruction and built important participant skills as online instructors for students. The professional development course included an in-depth exploration of effective strategies for teaching virtual school courses, as well as specialized training to prepare teachers to instruct online courses. Course content included online readings, Web-based and multimedia activities, and facilitated online discussions. Teachers were given first-hand experience at taking a course online, so that they could better understand their students' needs.

Other professional development opportunities are offered to instructors on a regular basis throughout the year. Professional development opportunities are designed to help instructors gain skills needed to be effective online instructors so they can best assist the students in an online environment.

Professional development is offered in a variety of formats. All full-time SCVSP instructors attend one on-site Professional Development day per month. Topics covered at recent trainings include:

- Curriculum Development using Moodle

- Bloom's Taxonomy in the Development of Online Curriculum

- New Technologies in Curriculum Development

- SCVSP Mission Statement Development

Other professional development opportunities are in the form of free online webinars offered by a variety of sources including the SREB, NROC, Adobe, and iNACOL. These trainings may be attended live or accessed through recordings at a later date for maximum flexibility.

The SCVSP believes a highly qualified, well-trained teacher, who is grounded in his/her subject area and excels in online pedagogy and practice, is essential to the success of the virtual student. All SCVSP teachers are required to hold a South Carolina teaching certificate in their subject areas plus additional certification in areas where required, such as Advanced Placement.

The SCVSP teachers are trained to the same demanding standards regardless of geographic location. Students benefit from seeing the same strategies, techniques, and processes no matter where their teacher is physically located. While there are no state-mandated standards for online teachers, the SCVSP's efforts to provide a consistent, rigorous training program are likely to result in a "de facto" standard to gauge virtual teachers' performances.

At any hour of the day, students can open their LMS, log into their class, work on assignments and projects, and then submit work to be graded. Teachers evaluate student work and send back a grade and comments. Teachers and students also communicate by phone to check on progress or answer questions. In other states, many students report having more contact with their online instructors than they experience in a traditional school setting. While students can work ahead, they must maintain a minimum pace to remain in the course. Before students begin a course, teachers make welcome phone calls to students and parents to discuss course details including pace expectations and materials required for the course. Parents will have access to their students' grades online.

Future Plans

The SCVSP has accomplished a great deal in a relatively short period of time. It has offered 85 different virtual school courses (initial credit as well as content recovery), including Algebra, Geometry, English, Web Design, and Global Studies, and served more than 29,680 students in the first three years of operation. Funding from the state allows each district to provide seats free-of-charge to students. All of this has been accomplished with a cadre of twelve full-time and twenty-one adjunct instructors who are supported by six professional full-time staff members.

Plans to expand and improve the SCVSP for the future include:

- Increase the number of full-time certified teachers to accommodate the legislatively approved 3,000 students to be served by the SCVSP;

- Increase the professional staff supporting the SCVSP working at the SDE to better serve the students, teachers, and districts participating in the SCVSP;

- Increase the number of AP course offerings;

- Use the SCVSP Needs Analysis Survey to provide data-driven support for course offerings in an effort to meet the needs and demands of sponsoring schools in the upcoming school years;

- Continue a systematic process of review and alignment of all online courses and curricula with the South Carolina Academic Standards;

- Develop "Master Curricula" for each online course and help establish common curricula guidelines for traditional and online courses;

- Develop a student proficiency system that supports the progress and development of students; and

- Develop a teacher proficiency system that supports virtual teacher development and supports online teachers.

Long-term goals include:

- Evaluating teacher performance in newly developed pre-service courses—Instructing Virtual School Courses, Part 1, and Instructing Virtual School Courses, Part 2—in an effort to ensure teacher ability and capacity to operate in an online environment; and

- Requiring online teachers to obtain the recently established Online Certification for teachers in the state of South Carolina. Currently, only two states have this endorsement in place.

Links

South Carolina Virtual School Program: *http://scvspconnect.ed.sc.gov/*

South Carolina High School Redesign Report:
http://ed.sc.gov/agency/offices/hsr/documents/HighSchoolCommissionReport.pdf

Bill H3097 establishing South Carolina Virtual School Program:
http://www.scstatehouse.net/sess117_2007-2008/bills/3097.htm

2005 Education and Economic Development Act (EEDA):
http://ed.sc.gov/news/more.cfm?articleID=587

Effective Engaging E-learning Environment for Tennessee (e⁴TN)

Dr. Wendy Oliver, e⁴TN Coordinator

The e⁴TN program works with school districts to provide online learning for Tennessee. Our mission states that, "We do what is best for the students."

Our vision: effective and engaging e-learning environment

https://www.e4tn.org/

History and Overview

In January 2006, the first statewide e-learning program in Tennessee was created. The Effective Engaging E-learning Environment for Tennessee (e[4]TN) is a grant-funded (Title IID), e-learning initiative that has successfully moved past the initial research and development stage to statewide acceptance. The e[4]TN program has developed research-based innovative approaches that have created and delivered a comprehensive online program providing an effective and engaging e-learning environment that meets the needs of secondary students throughout the state of Tennessee. By adopting a pioneering course development model that centralizes expertise and experience in curriculum, programming, instructional design, artistry, and online learning delivery, e[4]TN has broken new ground in creating courses that provide students with an optimally engaging and effective learning environment. The multi-faceted evaluation process embedded into the e[4]TN program is integrated with the course development procedure, allowing rapid adjustment to the needs illuminated through assessment and evaluation. Due to the unique design of the e[4]TN program, instructional services are provided to an expanding client base including segments of the population that do not have access through any other organization.

Program Background

The curriculum created by the e[4]TN team consists of 25 high school courses based on Tennessee state curriculum standards. The program's primary goals are to offer high-quality and engaging high school curriculum correlated with Tennessee curriculum standards and developed by highly qualified Tennessee teachers and to provide an online learning environment that will maximize student success. An additional goal of the grant is to develop a teacher pool across the state of Tennessee that has been trained and is experienced in online learning. The e[4]TN program began in January 2006 and has grown 924 percent from an organization based in one district administered by two high school teachers, offering online summer school using vendor-based courses, to a statewide organization serving students in 64 Tennessee districts with a high school curriculum and full online program developed by e[4]TN.

Beta Test Pilot

A secondary portion of the original grant was awarded to seven school districts: Bradley County, Bedford County, Dickson County, Kingsport City, Lake County, Tipton County, and Wilson County. Students, teachers, and administrators in these districts play a critical role in beta testing the e[4]TN courses before they are made available to students in the rest of the state.

The e[4]TN leadership team is composed of Dan Long of the Tennessee Department of Education and Wendy Oliver, Ed.D. of e[4]TN.

Administration and Policy

Organizational Structure

Each participating e[4]TN site has a site contact who serves as the administrative individual with signing authority. Additionally, each site has a person in the role of the Site Coordinator. This individual oversees the participants in the site and oversees registration for courses, as well as payment for participants. At the building level each participant has an on-site facilitator who is generally a guidance counselor, who registers students and monitors their progress. Additionally, if the site chooses to offer courses in a lab in a brick-and-click model, then a lab facilitator is also in place, who teaches students time management, technical literacy, technical standards, communication, content navigation, self-pacing, and oversees student progress. Each participating site also provides and compensates highly qualified teachers who are trained to teach in the program. All of these individuals work together to provide a solid experience for the students involved in the program. At the conclusion of the experience, e[4]TN awards a grade and the school awards the credit.

Individuals participating in training and therefore affiliated with e[4]TN are monitored by best practices evaluation points and entered into a state database based on completion of training. Current studies are taking place to evaluate the use of a value-added model in Tennessee for online instructors.

The e[4]TN program employs an internal evaluator who measures reliability and validity of curriculum and assessment pieces. In addition, this individual evaluates all training sessions led by e[4]TN personnel. Additional methods of evaluation that are collected in both qualitative and summative formats include interviews, surveys, observations, and data analysis. All components of e[4]TN courses undergo evaluative scrutiny.

Random test groups of students evaluate learning objects while being observed. Data collection varies but includes: reaction to color scheme, reaction to characters, clarity of instructions, value of lessons, goals of design, and other elements. Once this is complete and modifications are made, a certified teacher works through each unit to evaluate pedagogy. After learning objects and therefore units cycle through the alpha test process, each course is tested via beta testing with teachers and students. Feedback is an intense focus of this process through what e[4]TN refers to as the ticketing process. Through this process, teachers, administrators, and students may submit any troublesome areas with the curriculum via the e[4]TN Web site. Average response time to each submission is less than eight hours, with solution time being less than twelve hours.

Seventy-five instructors are currently employed for students. Over 200 teachers were trained, as of the fifth active semester of the grant. Each online instructor is recommended by an administrator and completes a combination of face-to-face and distance training models. Each instructor holds an endorsement in the area in which he/she teaches, and he/she is considered the Tennessee Department of Education teacher of record. Formative, qualitative assessments are completed weekly to assess teacher performance. Individualized coaching and appropriate support are provided based on

collected data. Individual scores, with appropriate results defined within the instrument, are communicated to the respective administrator and the teacher. Scores that do not reflect adequate percentages require a level of involvement from the Lead Teacher, a staff position dedicated solely to providing support mentoring to the online instructors.

> *"A lot of students that would have considered dropping out of school are staying in, making up credits, and graduating with their class."*
>
> — Melinda Sanders, Sequatchie County On-site Facilitator

Teachers are expected to facilitate the online course and evaluate the curriculum. They are also expected to uphold a high standard of communication with students, parents, and school representatives by returning all contact within 24 hours. Online instructors contact students a minimum of once weekly and document all communication in our Student, Parent, Registration, Implementation, Teacher, and

Evaluation (SPRITE) database. This database allows e⁴TN staff to monitor all communication with students and track student performance. Teachers also log student performance to include current grade average and time worked in courses every fifteen days. All e⁴TN team members attend a summer best practices and new instructor training workshop that is hosted in a central location.

Since e⁴TN provides a service to school districts, districts decide how the online courses will meet their respective needs. Therefore students take e⁴TN courses for a variety of reasons. Since the program is grant-based, no tuition is charged for e⁴TN's courses; e⁴TN also offers 64 (.5) credit vendor-based courses and charges tuition for fees incurred by the vendor, administration fees, and fees to compensate the online instructor.

On-site facilitators, who enroll students in both programs, use e⁴TN's tool, "Am I a Good Candidate for Online Learning?" to measure the likelihood that a student will be successful in an online course. This tool helps them to assess student motivation, access to technology, and the student's ability to manage his or her time, for example. In addition, when registering a student, the on-site facilitator evaluates the student's transcripts to determine needs and includes the parent or guardian when advising the student. The e⁴TN training team trains all on-site facilitators.

Almost 9,000 student enrollments have been served since January 2006. The e⁴TN program has a ten-day drop policy and a 30-day withdrawal policy.

A variety of students take e⁴TN courses. Many districts use the online offerings to expand the regular course menu, to provide a greater variety of electives, and/or to create equitable access to courses. In addition, some districts may not have access to a highly qualified or certified teacher for a specific subject area. In particular, we see a demand for foreign language and math teachers. Specifically, Tennessee districts need math courses online with the new policy requirement of Algebra in middle school. Many districts are offering math courses

online in order to offer standardized statewide curriculum and to access highly qualified teachers since the math standards increased in 2009. As another example of this, a foreign language teacher retired and a replacement could not be found; however, e⁴TN was able to meet the desperate need of the district by supplying an online course and highly qualified foreign language instructor. Other districts use e⁴TN courses to meet the needs of gifted students. There are some schools that do not necessarily have the ability to provide advanced coursework at the middle school level. The e⁴TN program has, in many instances, offered Geometry, French, and Spanish to middle school students online. Online learning is not just for advanced students, however. Other districts have used online learning to meet the needs of students with Autism and other exceptional needs. Many students find that the ability to read and hear passages read multiple times increases their understanding and therefore retention. Alternative and adult populations also use e⁴TN's online learning program to meet their diverse needs. Even baby boomers who are returning to school to complete their high school education find the medium and the design of the technology effective and engaging. Lastly, e⁴TN content is used to supplement and reinforce educational concepts taught in the traditional face-to-face classroom. Dickson County, for example, will be the first county in Tennessee to require all incoming ninth graders for the class of 2014 to take an online course in Computer Literacy. Through their freshman academy, they will also be offering some core content online courses provided by e⁴TN using a brick-and-click model, which will provide standardized core content in both high schools in the district to all freshmen.

Outcomes and Lessons Learned

School Overview

> *"Thanks to e⁴TN for allowing our students to accelerate and complete their work on an individual basis. They felt in charge of their education. I am grateful for this innovative program."*
>
> — Bill Warren, Hamilton County Principal

Enrollment has increased 800 percent in spring 2006. A factor in this statistic is the release schedule of new courses. This number most definitely suggests an increase in the demand for online learning in the state of Tennessee. Most all districts begin only using online courses for students who are at risk and need to make up a credit for courses they fail. As districts begin to see the success of students, they begin to "dip their toes" in a variety of uses for online courses. This seems to be the pattern in the majority of partners in the program. While this may appear negative on the surface because it takes longer to provide broader opportunities to a more diverse population, what we have seen is that this allows districts to conceptualize the process, methodology, and model for online learning at a manageable level, and they are able to do it well. Then they expand it to include a greater number of students.

Throughout Tennessee, districts have a variety of consistencies in board policies regarding early graduation and repeating courses for GPA improvement. As a result of participation in online courses, districts have found it necessary for their school boards to address such policies.

Teachers who perform the best in the traditional, face-to-face environment are not necessarily the best performers in the online environment and vice versa. For example, online instructor X is not a "strong" face-to-face instructor; however, he is one of the best online instructors on the e⁴TN team. Much like the students, the online environment provides opportunities that the traditional environment may not for professionals.

District-level and student-level ownership is vital to the success of the program. Some districts have found higher student participation rates, for example, by asking students to complete scholarship applications for participation. These applications include an explanation of why the student would like to take an online course, and they are submitted electronically, which demonstrates 21st century technology skills.

This level of ownership also assists in high teacher retention. No instructor has terminated employment during a term, and we are fortunate to have an excellent teacher pool, as the program is a grass-roots initiative, involving input at all levels of participation. Teacher rehiring is based on administrative recommendations and performance/evaluation data. No online instructor is employed full-time for e⁴TN, for this is not the current model. However, the curriculum development staff and implementation staff are comprised of former classroom teachers, graphic artists, technical staff, and administrators. In four years, the retention rate for full-time development staff for e⁴TN is 98 percent.

Student Experiences

> *"I'm taking an online course because I was behind when I moved from another school. I think e⁴TN classes are a very good thing to do to get back on course and get your credits up."*
>
> — Yonas, Wilson County Student

In fall 2006, 95 percent of students taking an e⁴TN online course in order to regain status with their cohorts (the initial group with which they entered high school) successfully completed their online courses. Overall, from spring 2006 to spring 2007, an average of 82 percent of students who repeated a course with e⁴TN have been able to regain status with their graduating class as a result of taking an e⁴TN course.

Tennessee requires students to take an end-of-course exam in Algebra I. The e⁴TN program offers a preparatory course for the exam, which is oftentimes used as remediation for the test and offered to students who have previously failed the course. In spring 2007, 92 percent of students who took the course successfully passed the state end-of-course exam. In 2009 with 800 percent growth, 78 percent of students who took Algebra online passed the state end-of-course test assessment.

The e⁴TN program has a very specific drop and withdrawal policy, and is so intent on not setting a student up for failure that we track data and statistics on students very closely. We target a student who hasn't worked in five days and evaluate progress weekly. Immediate contact is made with the district if a pattern emerges, and we recommend a drop or a withdrawal depending on at what point the pattern becomes apparent in the semester. This requires dedicated staff who truly have the students' best interests in mind. It also requires many queries of our database that we designed specifically for our needs. This is a continually improving process. It takes a new site, on average, a minimum of three semesters to appreciate the detail of this process.

School Accomplishments

The e⁴TN program is not in competition with the school districts. We view our role as that of a service provider. The team sees our job as an opportunity to serve educators. Courses and services are provided to educators by former educators and various technical and administrative staff. The program is successful because of the team's desire and passion for the program itself and for their concept of service leadership.
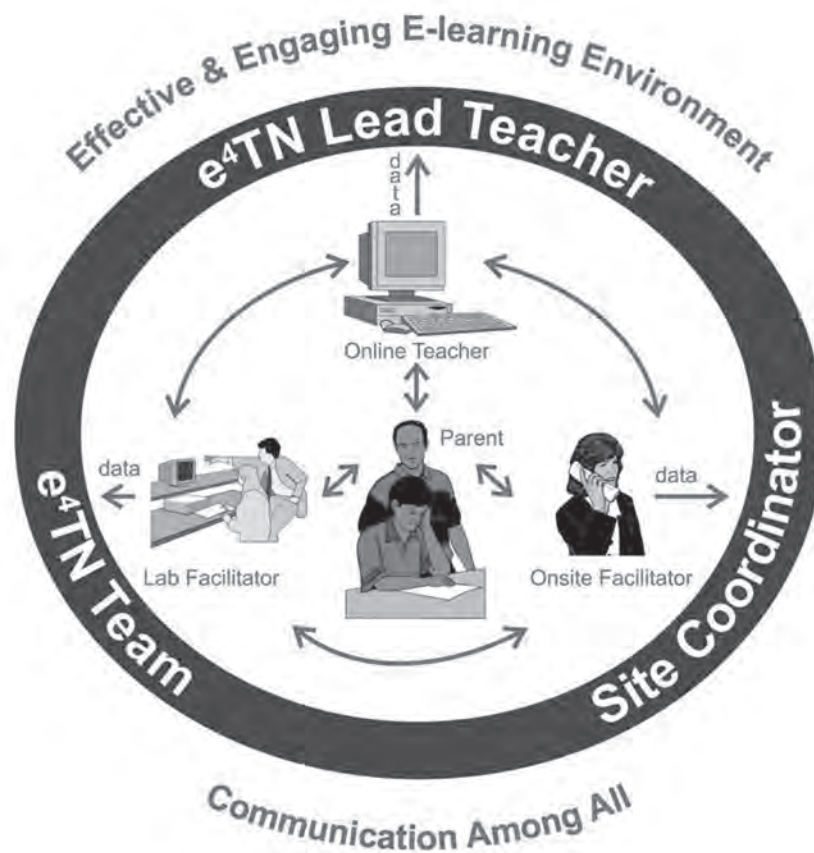
Figure 13-1. Infrastructure of e⁴TN

Best Practices

School-Based Practices

The unique infrastructure of e⁴TN provides a support system for all students, as shown in Figure 13-1. The online instructor works closely with the e⁴TN administrative team within each district: the site contact/coordinator and the on-site facilitator who is typically a guidance counselor and advises the student, and the lab facilitator who assists the student with the online course. All of the individuals, including the parents, have access to the teachers' comments and current average as well as days worked, which are posted by the online instructor in our online database. There is a team of curriculum developers and implantation specialists to assist all teachers and students in success.

Instructors contact students weekly and document all communication with students in a common communication system. During this time, support is provided to the student academically and socially. Much individualized re-teaching takes place during this time. Instructors also post students' cumulative grade averages, along with days worked, every two weeks. This provides a pool of data to analyze for trends that have, oftentimes, shown patterns of success or allowed the e⁴TN team to intermediate when an error is found.

The on-site facilitator and lab facilitators serve as a physical presence for the program, while the teacher is present through the virtual medium. Data is collected and analyzed weekly. If an abnormal pattern emerges in student performance, an e⁴TN team member notifies the representative from the school district. This data, collected via the LMS and by a statistician who measures curriculum for internal validity, is analyzed and recommendations for student success are made. With opportunities to serve 4,000 more students in Tennessee, e⁴TN is hiring an additional data evaluator and an at-risk specialist who will both assist in reviewing and supporting students in Tennessee who are in need of support.

All materials for the courses are provided, with the exception of novels in literature courses. Additional opportunities for students are provided in wiki's and via open education resources should they need them.

Students are surveyed for feedback on the program. Teachers and administrators have the opportunity and are encouraged to submit "tickets," which is a Web-based process for submitted needed corrections or suggestions for improvement to our courses.

All teachers attend a three-day/twenty-hour training face-to-face component where they are taught, through adult learning theory, the history of the program, online learning pedagogy, best practices online, open education repositories, communication, policy and procedure, assessment, LMS, and e⁴TN's database. Follow-up trainings and ongoing professional development via the online medium also take place. The e⁴TN program provides a lead teacher for all online instructors. The lead teacher serves as a mentor to all online instructors. She also monitors and assesses their courses weekly. The data she collects weekly is reported and shared. Conversations occur regarding correlation reports with teacher strengths and

student gain to determine curriculum and instructor strengths. More data is collected to determine if there is a weakness, followed by recommendations for improvement.

The e⁴TN program serves in the role of an auditor to all teachers in Tennessee should they wish to review curriculum that is aligned to common core standards in order to get new teaching ideas, review for Praxis tests, improve weak content areas, and various other professional development needs.

Student Services

Students are given a specific start date and end date in courses that are being beta tested. Original Tennessee courses are beta tested a minimum of three semesters. Since e⁴TN is in a data collection phase on curriculum, solid begin and end dates are necessary to collect data in beta courses. Courses that are no longer in beta test and vendor-based courses are offered in a rolling enrollment style, where students may enter a course at any point. In both programs, students have nine weeks to complete each .5 Carnegie credit of work.

Courses that require a state-level end-of-course test require a pre- and post-assessment. Based on progress and scores on the pre-assessment, instructors may assign additional learning objects from a variety of open education repositories beyond the program curriculum.

> *"Mrs. Drayton (on-site facilitator) gave me a chance to take the e⁴TN class . . . every time she sees me she asks how I'm doing. She believes in me."*
>
> — Paco, Rutherford County Student

Another measure that e⁴TN has found to assist in student success is firm timelines. If students have no firm timelines, they wait until the due date and try to complete all the work, which is not possible. Our goal is for students to succeed, so we set specific timelines per course, and we assign zeroes if students do not meet those goals. There is an element of rigor, and instructors are encouraged to consider personal situations. We have found students are more successful if someone paces them and teaches them time management.

We recommend that students work in their online courses on five or six of each seven days. We suggest that schools ensure students have access to a computer with Internet before enrolling them in a course. If the access point for the student is at school, then we suggest that the student have more than a 30-minute window to access the course daily. All e⁴TN teachers post synchronous office hours when they are directly accessible for students. During this time, much individualized instruction takes place.

Support Services

Many districts that use our program require a face-to-face student orientation. Some districts require parental attendance at orientations as well. The parental turn out for these

meetings has been outstanding all over the state. More success is found in the program when parents attend the orientation trainings. Additionally, when the teacher submits a student's progress into the e⁴TN database every fifteen days, it is automatically e-mailed to the school, student, and parent. Also, while the online instructor is required to contact the student once weekly, he/she is required to contact the parent or guardian once monthly.

At the school level, the on-site facilitator, who is usually a guidance counselor, monitors the student's progress on a day-to-day basis. He/she serves as the physical presence of the program while the instructor appears online. If a student has been absent from his online course, for example, the online instructor has a direct contact in the student's school to determine if he is well. Another role that many schools choose to implement is the lab facilitator. This individual also serves within the school; however, he/she actually facilitates the courseware by helping students with technical concerns, time management, and organization skills. This person manages the security of the computer lab and is involved with assisting the student in the day-to-day workings of his/her online course.

Course-Based Practices

The e⁴TN courses are developed based on best practices in both e-learning and face-to-face learning. Principles of design include Gagne's Events of Instruction and Gardner's multiple intelligences. Learning objects are designed to engage students through educational simulations. Pacing guides for each course are included in the packaging so the teacher may appropriately guide students. Specific timelines are determined by when assignments are due from students. Course shells are created in the learning management system based on the original course content. The curriculum and technical support teams make all updates and modifications. The e⁴TN team encourages teacher suggestions and modifications be submitted via our ticketing system on our Web site. Tennessee teachers design all courses and align them to Tennessee curriculum standards.

From vendor content, *e*⁴TN only offers curriculum that has been reviewed by teams of Tennessee teachers to ensure alignment with Tennessee standards. If such standards are not met, the vendor allows the teachers to modify the content to ensure standard alignment.

All e⁴TN courses are theme-based. For example, in Algebra I, pirates are on a quest to find the missing treasure. "X," of course, is representative of a mathematical variable; however, many times throughout the course, "X marks the spot" on the treasure map, requiring different types of equations that provide solutions to carry the pirates on their quest.

All courses that require an end-of-course exam by the Tennessee Department of Education include a both a pre- and post-test in order to measure gain and to serve as practice for students. These courses include: Physical Science, Biology, English 9, English 10, and Algebra I.

All courses include literacy strategies such as reader response questions. These are also used for the learner to measure prior knowledge and attainment of new knowledge. Another literacy strategy included in some e⁴TN courses is KWL. With this strategy, the learner

defines what he **K**nows prior to the lesson, describes what he **W**ants to know as a result of the lesson, and then upon completion of the lesson he explains what he **L**earned.

Simulations provide a game-based environment for students to learn in a virtual environment. For example, in e⁴TN's economics, students participate in managing a store. Their goal is to balance their books by the end of the week. Many variables are involved throughout the simulation. Other stores open that offer competitive wages, employees become dissatisfied with wages, and unexpected expenses impact their budgets, among others. All of this happens in a game-like setting. Thus simulations are strategies that e⁴TN uses to engage students success while practicing and applying newly attained knowledge.

All technologies for e⁴TN course are Internet-driven. Foreign language courses include voice boards. Otherwise, only standard plug-ins are required. Courses are designed for a minimum 56K modem.

Technology-Based Practices

There are key components to the LMS that allow for students to be successful. The communication tools are extremely valuable. Students engage in the discussion board with fellow students and instructors. Being able to track student statistics to measure success is also valuable. A very important function is student access to internal e-mail (within the LMS). Students also appreciate the opportunity to see timelines in the calendar and track their own progress in the grade book.

Students are provided with an orientation to the LMS and organization of curriculum. It is also beneficial to student success when someone with a physical presence at the school is trained in the LMS and curriculum structure; e⁴TN's model includes on-site facilitators and lab facilitators for this model.

Students and instructors are trained in how to communicate effectively via an electronic medium. Students who are provided the opportunity to work on their online courses during the traditional school day are found to be more successful. These schools provide a technology lab where students may work on their online courses.

Future Plans

Administrative Goals

The e⁴TN team hopes to serve students and teachers in the state of Tennessee and beyond to the best of our ability and technical capabilities. The key to our success is our service. We hope that we will find support for this goal through state-level appropriations in the near future as the need for online courses is growing more apparent by the day.

Upon viewing our content, agencies outside of K–12 content delivery have asked us to build their employee training and professional development. The

e⁴TN team hopes to be able to serve these needs. Additionally, Tennessee's original funding model allowed for the development of several original development tools that e⁴TN hopes to share with other online programs.

Educational Goals

As enrollments increase and districts in Tennessee become more familiar with online learning, we hope to see a more embedded, sustainable model such as brick-and-click. Also, we hope to see opportunities for teachers to apply the long-tail theory by using the online curriculum as the primary curriculum, thereby using their time for more individualized and personalized instruction.

A more in-depth model for professional development is also included in future plans. As the teacher pool continues to increase, we hope to include a teacher assistant role as a training component. We would like to build best practices curriculum for districts in Tennessee. For example, in summer 2010 some districts are using the e⁴TN curriculum to enhance technology skills with teachers rather than requiring them to attend face-to-face professional development.

An area we intend to explore is the use of avatars and 3D development with Maya software. We have one course that will serve as the experimental design that is currently in development. The control course is currently in beta test. Our experiment is to determine if students find online learning to be more personable with an avatar taking on the role of the traditional classroom teacher. For example, the avatar may summarize lines from a Shakespearean play and say them in modern translation. This element of added interaction will increase our technical capacity. If the technology increases student retention as a result of the emotional connection, then the capacity for course design will also reach new levels.

A pedagogical direction in which we hope to direct ourselves is additional technology. We would like to pre-test students and direct them on learning paths based on item analysis within the learning management system. We are currently meta-tagging all courses in order to create this feature in our learning object repository. This opportunity would create different avenues for credit recovery and individualized instruction.

Links

http://tennessee.gov/sos/acts/105/pub/pc1096.pdf

http://www.facebook.com/e4tn.org

http://www.twitter.com/e4tn

Texas Virtual School Network (TxVSN)

Kate Loughrey, Director of Distance Learning

The Texas Virtual School Network provides courses to supplement the instructional programs of public school districts and open enrollment charter schools.

http://www.txvsn.org/

Historical Perspective and General Overview

Program Development and Partnerships

In 2007, the Texas Legislature established a state virtual school network for the purpose of providing Texas students with equitable access to quality, supplemental online courses. Under the direction of the Commissioner of Education, the Texas Virtual School Network (TxVSN) is administered by the State Department of Education—the Texas Education Agency (TEA), working in partnership with districts and other key stakeholders to create a statewide collaborative that makes up the network. The TxVSN is a state-led, statewide, state-supported virtual school network that provides grades 9–12 courses to students across Texas. The TxVSN builds upon the lessons learned through several earlier state-led pilot programs, such as the Virtual School Pilot, Investigating the Quality of Online Learning (IQ) Pilot, and the Electronic Course Pilot, as well as lessons learned through the state's ongoing participation in state, regional, and national research and online learning efforts.

TxVSN legislation outlined the operational, course evaluation, and professional development requirements for the network. In April 2008, through a competitive request for proposal, TEA identified key TxVSN partners: Central Operations, to manage the day-to-day operations of the network, and Course Review, to review courses submitted for inclusion in the TxVSN course catalog against standards of quality set by the state. The third key partnership needed to lay the foundation for the network focused on instruction. Five professional development providers were approved through the inaugural request for qualifications (RFQ). They began offering professional development for online teaching during the summer of 2008. Additional RFQs have been released periodically, increasing the number of partners available to provide the TxVSN-approved professional development required of teachers prior to teaching for the network.

Through the TxVSN's centralized course catalog and student registration system developed by Central Operations, TxVSN courses and instruction are provided by TxVSN Provider Districts. Texas public school districts and open-enrollment charter schools meeting the eligibility requirements of the network, Education Service Centers, and public and private institutions of higher education are eligible to apply to become a TxVSN Provider District. Receiver Districts (a student's home district) are the student's link to the network.

In January 2009, the TxVSN began offering a limited number of grades 9–12 courses, including Advanced Placement (AP), to students across the state. All TxVSN high school courses are aligned with the state curriculum standards, the Texas Essential Knowledge and Skills (TEKS), and the International Association of K–12 Online Learning (iNACOL) *National Standards of Quality for Online Courses* (2007). Courses are led by a teacher who is Texas-certified, or meets the credentialing requirements of the institution of higher education, and has demonstrated mastery of the iNACOL *National Standards for Quality Online Teaching* (2008).

Beginning with the 2009–2010 school year, the TxVSN initiated a small pilot program for dual-credit courses earning both high school and college credit.

Funding Sources

Appropriations for the TxVSN have increased over its first four years.

- In the 2007–2008 school year, $1 million for establishment and operation of the TxVSN Central Operations and the Course Review process was provided through state funds, not direct appropriation to the program. No funding was provided for student courses.

- In the 2008–2009 school year, $1.3 million for operation of TxVSN Central Operations and Course Review was provided through state funds, not direct appropriation to the program. No funding was provided for student courses.

- In the 2009–2010 school year, $10,150,000 was appropriated for TxVSN Central Operations, Course Review, three new studies required by HB 3646, and student courses.

- In the 2010–2011 school year, $10,150,000 was appropriated for TxVSN Central Operations, Course Review, continuation of the studies required by HB 3646, and student courses.

> *"With our master schedule constraints, online learning allowed students to take graduation requirement courses that otherwise would not have been available to them."*
>
> — Counselor at TxVSN Receiver District

During the 2008–2009 school year, districts paid for the online courses provided by TxVSN; however, as a part of House Bill 3646, the 81st Texas Legislature created an allotment to fund courses provided through the TxVSN. If a student successfully completes an online course provided through the TxVSN, the TEA will provide a payment of $400 per semester course to the district providing the course (TxVSN Provider District) and $80 per student per semester to the district in which that student is enrolled (TxVSN Receiver District). No funding is provided unless the student successfully completes the course. The online course must be part of the student's normal course load and meet one of the graduation requirements. In addition, a separate source of funds will supply the same funding for online courses provided above a student's normal course load. For each TxVSN semester course that is successfully completed, TEA pays half of the $400 for initial start up costs and the remainder after verification that courses were successfully completed. Successful completion is defined as a grade of 70 or better with the student having completed all required instructional activities and assessments. Provider Districts are not allowed to receive this dedicated funding to serve their own students. The Agency will be proposing a rule to define a normal course load as seven courses earning state credit toward graduation.

If an eligible student who resides in the state but is not enrolled in a Texas school district or open-enrollment charter school as a full-time student ("unenrolled student") registers for a TxVSN course (other than a student in foster care or certain dependents of military personnel), no state funding is provided and the TxVSN course fee must be paid by the student.

Electronic Course Program (eCP)

In addition to courses offered through the TxVSN, TEA continues to administer a full-time virtual program called the Electronic Course Program (eCP). The eCP began serving students in spring 2006. House Bill 3646 signed into law in June 2009 repealed the separate statute which created the eCP as a pilot (Texas Education Code [TEC] Section 29.909) and incorporated the eCP as a program under TEC Chapter 30A, which established the TxVSN.

> *"Mrs. G. is a great teacher and she really breaks things down so that I understand them. Anytime I have a problem she explains it . . . She rocks!"*
>
> — TxVSN Student

Students must be enrolled full-time in a public school district or open-enrollment charter school that applied and was approved to participate in the eCP. Students are not required to be physically present on campus during instruction.

No funds were appropriated for the eCP. Based upon the maximum number of students approved by TEA to be served through the eCP, a fee of $150 per student is paid to the TEA to partially offset the cost to the Agency for administering the program. Schools selected for participation are eligible to earn Foundation School Program funding (often called FTE funding in other states), per the eCP funding model which is based on successful completion.

Beginning in 2009–2010, the eCP expanded from grades 3–8 to include grade 9, with plans to continue to add one additional high school grade per year. Currently, there are three districts/charters participating in the eCP. However, plans call for the eCP to be reopened to allow additional districts and open-enrollment charter schools to apply.

Administration and Policy

The Texas Education Agency (TEA) provides state-supported online learning opportunities to students across the state through the TxVSN using a network approach. Centralized responsibilities provided at the state level include leadership, administration, operations, course review, approval of required professional development for teaching online, and funding. The TxVSN network concept encompasses TEA leadership working in partnership with Central Operations, Course Review, and professional development providers for key functions of the network, and these three key partners provide important support to both Receiver and Provider Districts. Provider Districts oversee

instruction and provide courses, and Receiver Districts register and support their students who are taking courses offered through the TxVSN statewide catalog.

Organizational Structure

TEA administers the TxVSN, sets standards for and approves TxVSN courses and professional development for online teachers, and has fiscal responsibility for the network.

Day-to-day operation of the TxVSN is contracted to Education Service Center (ESC) Region 10, which serves as Central Operations for the network in collaboration with the Harris County Department of Education. Central Operations developed and coordinates the centralized TxVSN course registration and student enrollment system, ensures eligibility of TxVSN Provider Districts, publishes an online catalog of approved courses, and coordinates data needed for state reporting requirements. Development of these key elements began during summer 2008.

TEA contracted with ESC Region 4 to review online courses submitted by potential Provider Districts until August 31, 2010, at which time the TxVSN course review function was consolidated with Central Operations at ESC Region 10. The course review process ensures that all courses offered through the network meet or exceed the state curriculum standards as well as the rigorous online course standards developed by the Southern Regional Education Board and endorsed and adopted by iNACOL.

A group of professional development providers approved by TEA offers the required professional development for teaching online for the TxVSN. RFQs are issued periodically to solicit additional providers. Currently there are ten providers of TxVSN-approved Professional Development for online teachers, as shown in Table 14-1.

TxVSN Professional Development Provider	PD Audience
Education Development Center, Inc.	Beginning & Experienced Online Instructors
ESC Region 1	Beginning Online Instructors
ESC Region 4	Beginning & Experienced Online Instructors
ESC Region 11	Beginning Online Instructors
ESC Region 16	Beginning Online Instructors
Harris County Department of Education	Beginning & Experienced Online Instructors
LincoTower, LLC	Beginning Online Instructors
Texas A&M University CDLR	Beginning Online Instructors
University of Houston Clearlake	Beginning & Experienced Online Instructors
PBS TeacherLine of Texas	Beginning Online Instructors

Table 14-1. Professional Development Providers

TxVSN Provider Districts provide the courses offered through the TxVSN and are responsible for instruction.

TxVSN Receiver Districts (student's home district) approve their students' TxVSN course requests, provide ongoing monitoring and mentoring support to local students enrolled in TxVSN courses, and award credits and diplomas.

Accountability Measures

Independent school districts with a state accountability rating of Acceptable or higher and open-enrollment charter schools with a state accountability rating of Recognized or higher, regional ESCs, and Texas public or private institutions of higher education may apply to become a TxVSN Provider District. Provider Districts submit courses they developed locally or acquired through a third party to the network for review. Approved courses are added to the TxVSN course catalog and become available to students across the state through the network's centralized student enrollment system. The TxVSN course catalog continues to expand as TxVSN Course Review approves additional provider courses.

Students and Teachers

Although the TxVSN is still in its infancy, the number of participating students, districts, and teachers and the number of course titles and available seats are all growing rapidly. The network launched its course catalog in January 2009 with four TxVSN Provider Districts offering a dozen course titles and 810 seats to 29 Receiver Districts. A little over a year later, TxVSN has expanded to fifteen TxVSN Provider Districts (nine districts/charters/ESCs and six higher education institutions) offering more than 40 course titles and nearly 10,000 seats to 324 Receiver Districts, as shown in Figure 14-1.

TxVSN Registered Participating Districts
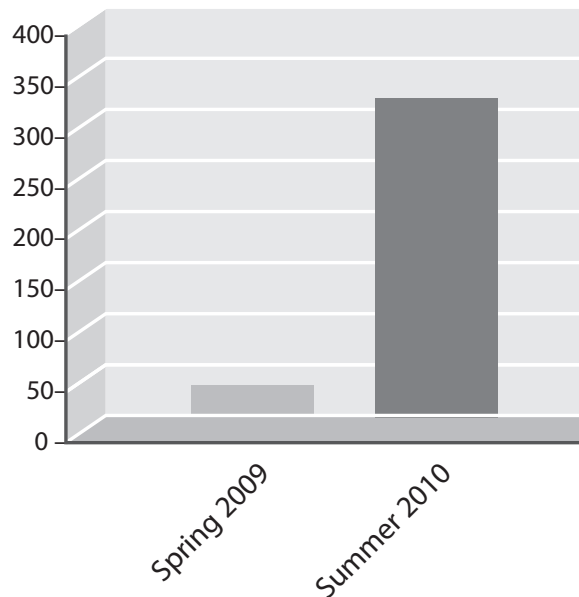
Figure 14-1. TxVSN Registered Participating Districts

From a starting point of no teachers in summer 2008, TxVSN Provider Districts report a total of four full-time and seventy-five part-time TxVSN teachers as the network heads into the 2010 summer semester. It is anticipated that additional educators interested in becoming eligible to teach TxVSN courses for one of the network's Provider Districts will take advantage of TxVSN professional development opportunities over the summer months, shown in Figure 14-2.

Number of TxVSN Teachers, 2009–2010
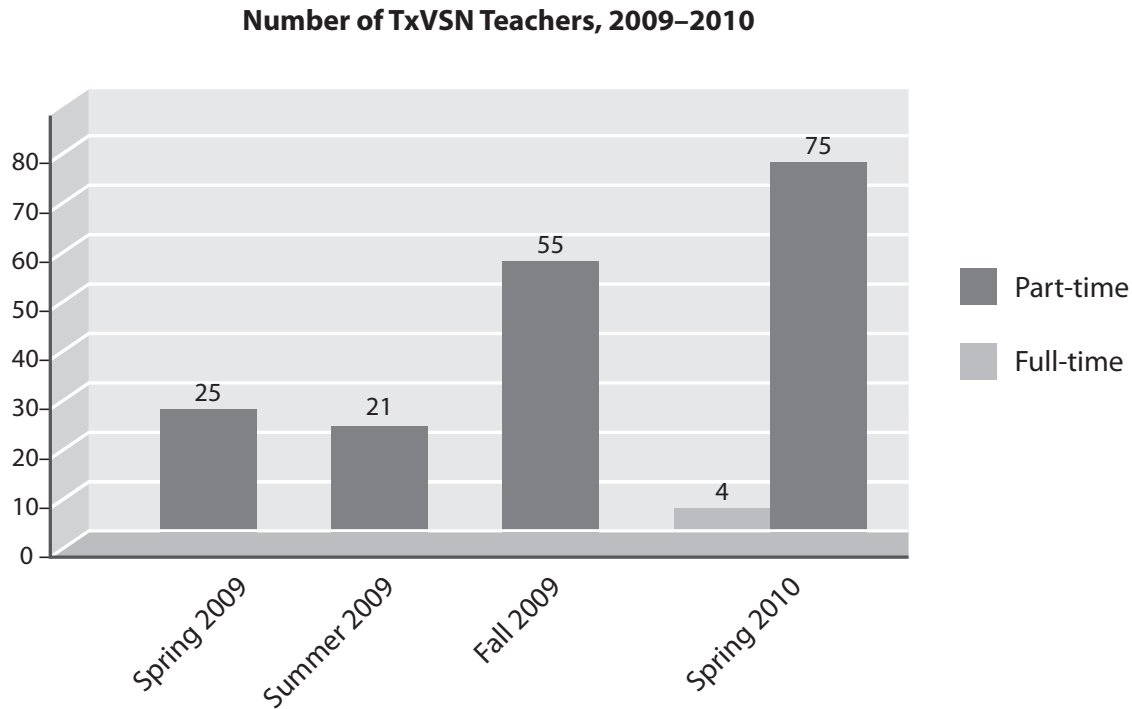

Figure 14-2. Number of TxVSN Teachers, 2009–2010

When TxVSN Course Review was first established in the summer of 2008, a total of 76 semesters of high school course content were reviewed; during the 2008–2009 school year, 143 semesters of high school course content and 16 semesters of dual-credit course content were reviewed for a total of 159; and of the 219 total semesters of content submitted for inclusion in the TxVSN catalog that were selected for review during the 2009–2010 school year, 127 semesters have been reviewed, as of June 1.

Outcomes and Lessons Learned

It is too early in the development of the TxVSN to know the impact the online learning opportunities provided through the network may have on student performance, or on other measures such as graduation and dropout rates. However, it is very clear that as students, parents, and schools become aware of the new options that TxVSN offers them, a pattern of growth is rapidly emerging. Students and schools are looking to the TxVSN to help meet individual educational needs, provide scheduling flexibility, and offer credit advancement and recovery options. Schools that need to expand their curriculum offerings

or that have been unable to find a certified teacher in subject areas with a high teacher shortage are also discovering the new resources available to them through the TxVSN.

Just as the number of districts registered to participate in the TxVSN has grown quickly, student enrollments are also increasing significantly each semester, as shown in Figure 14-3.

Number of TxVSN Actual Semester Course Enrollments
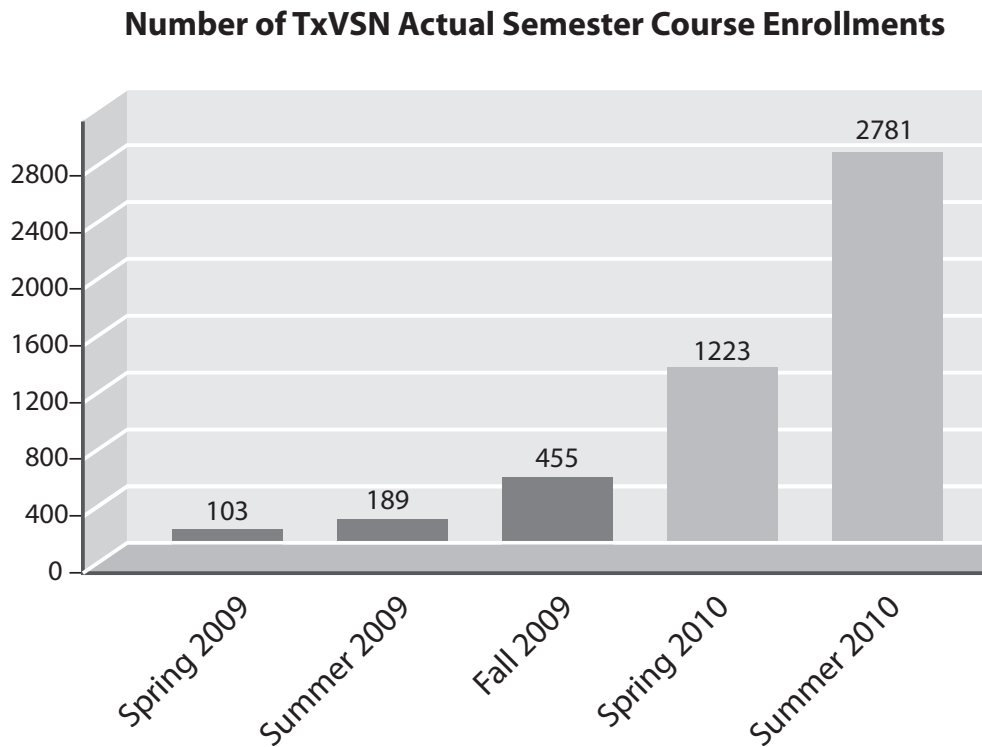
Figure 14-3. Number of TxVSN Actual Semester Course Enrollments

As of early June 2010, approximately 2,000 high school and dual-credit course enrollments have been processed for the summer 2010 semester.

> *"I would like to see this [online learning] in every school."*
>
> — TxVSN Student

Although TxVSN's history is short, there is already much to celebrate. State legislators who crafted the legislation establishing the network created a unique, inclusive model that leveraged the existing district-level providers while authorizing TEA to provide the leadership, oversight, and functions most effectively and efficiently centralized at the state level. The commitment of state leadership enabled the most critical foundation efforts to be accomplished rapidly. The network was built from the ground up and launched very quickly, allowing TxVSN to begin serving students approximately six months after establishing key functions for Central Operations, Course Review, and Professional Development. In subsequent action, legislators

ensured that students across the state will have equitable access to quality online learning opportunities through establishment of a state allotment to pay the costs associated with providing TxVSN courses, while recognizing that these costs are in addition to districts' continuing need for existing state funding to support all their traditional educational activities.

Strong partnerships are now in place, providing a secure foundation upon which the network can grow and evolve. Standards and processes have been adopted that reflect the network's commitment to excellence in the courses that are offered, as well as the specialized professional development needed to prepare teachers to teach effectively in an online classroom. As of April 2010, courses required to meet the 2010–2011 Recommended Graduation Plan requirements had been approved through the Course Review process. The next milestone will be to ensure that every required course is available as a regular high school course. Advanced Placement and dual-credit options will also continue to be expanded.

A strong focus on the student drives all planning, design, and day-to-day implementation of the TxVSN. The mission of the network is to serve the educational needs of the student. With its first full instructional year just now ending, the TxVSN will continue to tackle the challenges inherent to beginning such an ambitious endeavor as creation of a statewide virtual school network. It will work through the complex issues involved while maintaining its student focus, and manage daily operations amidst the inevitable growing pains of a successful initiative.

Best Practices

School-Based Practices

The Texas Virtual School Network Advisory Council was established to provide the TxVSN Team and the TEA Instructional Materials and Educational Technology Division with recommendations on the implementation of the network. Advisory council membership is comprised of Texas educators, professional development providers, technology leaders, and experts in K–16 education as well as the field of online learning. The TxVSN Advisory Council plays an integral role in bringing the voice of Texas students and educators to the TxVSN planning and implementation process.

Early in its development, TxVSN Central Operations hired a qualified school counselor to work with Provider and Receiver Districts and to assist the network in the development and implementation of appropriate policies and practices to best support students and schools.

TxVSN Provider Districts and Receiver Districts use a variety of measures to support and enhance student success, based on the needs of the students served and on local policies. Each Provider and Receiver District established guidelines for students and instruction. Additionally, TxVSN Central Operations has established policies and procedures that all participants must follow. In order to ensure that all parties are aware of these TxVSN policies and their roles in assisting students to succeed in online courses, Receiver and Provider Districts sign an annual agreement with the TxVSN. The agreements outline the roles and responsibilities of the Receiver District, Provider District, and the TxVSN. The

network has also developed a standard agreement that outlines students' responsibilities, applicable TxVSN policies, and consequences that will be applied for policy violations.

In addition to signing an annual Provider District and/or Receiver District agreement with TxVSN, a district planning to participate in the network must complete a Needs Assessment annually prior to enrolling students in online courses through the network. Needs assessment results are used to aid the TEA, TxVSN, and TxVSN Provider Districts in long-term planning needed to build the capacity of the network.

TxVSN online courses must meet the basic definitions set forth by the authorizing legislation for the network, codified in Texas Education Code Chapter 30A. Online courses are defined as follows:

- Instruction and content are delivered primarily over the Internet;

- A student and teacher are in different locations for a majority of the student's instructional period;

- Most instructional activities take place in an online environment;

- The online instructional activities are integral to the academic program;

- Extensive communication between a student and a teacher and among students is emphasized; and

- A student is not required to be located on the physical premises of a school district or open-enrollment charter school.

The network's Course Review process ensures that courses also meet the state curriculum requirements and iNACOL *National Standards of Quality for Online Courses*. Most classes are designed for students to enroll and participate as a cohort. The network's professional development requirements ensure that teachers demonstrate mastery of the iNACOL *National Standards for Quality Online Teaching*.

TxVSN provides a number of general support materials through its Web site, including a handbook for TxVSN Site Coordinators, TxVSN Policies and Procedures manual, FAQs, best practices information, and training modules for various stakeholders, located on the TxVSN Web site. The TxVSN also conducts training webinars with districts, schools, and individuals; regional face-to-face informational meetings; focus groups for Receiver Districts and Provider Districts; and focus groups targeting specific issues the network needs to address, such as its dual-credit pilot.

Texas has specific physical activity requirements for all physical education courses, appropriate to a students' grade level, which make up an important part of the student's grade for the course. Therefore, TxVSN has now developed a document that gives Provider District helpful guidelines and examples for documenting a students' physical activity to meet the state's reporting requirements.

Teacher-Based Practices

Each teacher delivering an online course through the TxVSN must complete the required professional development from an approved provider or demonstrate mastery of the iNACOL *National Standards of Quality Online Teaching* prior to teaching for the network. TxVSN courses are led by online instructors with Texas certification in the course subject area and grade level or by an instructor who meets the credentialing requirements of the associated institution of higher education. Online instructors also must have submitted to the Provider Districts' process for background checks and any other district requirements.

Provider Districts are responsible for instruction. They are to provide ongoing oversight of teachers and ongoing support, including professional development. In the future, TxVSN will include this critical component in its evaluation of TxVSN Provider Districts' programs.

Student-Based Practices

> *"I liked online classes and being at my own pace."*
>
> — TxVSN Student

TxVSN has licensed a Web-based pre-assessment tool called Readiness for Education At A Distance Indicator or SmarterMeasure. SmarterMeasure is a diagnostic tool that identifies students who are at risk of not doing well in online courses due to measured sets of traits, skills, and knowledge.

SmarterMeasure provides an immediate score and diagnostic interpretation of results to the student and to their local school. Assessment takes approximately 15-20 minutes to complete.* This tool is made available free of charge to every district that registers to participate in the network, is strongly suggested for all students interested in taking a TxVSN course, and is required for students taking a TxVSN course for the first time. A detailed student handout is available to assist students with login to the pre-assessment, and SmarterMeasure information training sessions are available for campus administrators. If it is determined that the student is not ready, the Receiver District can work with the student as necessary so they can be prepared in the future. TxVSN Provider Districts are also expected to provide an orientation course for students, as described in the Questionnaire they submit as part of the Course Review process.

Support-Based Practices

TxVSN hired a qualified counselor early in its development to advise and help the network implement policies and procedures to support student success. The TxVSN counselor also works with Provider and Receiver Districts to aid them with effective planning and practices. One topic of particular importance that is frequently addressed by the TxVSN counselor in her work with districts is the need for a mentor to support students who are taking online courses. Having a local campus mentor for students taking online courses has a positive impact on student passing rate and is critical to overall success. Each Receiver District enrolling students in TxVSN courses is required to provide an individual employed by the school/organization to serve in the capacity of TxVSN Site Coordinator.

The responsibility of the Site Coordinator is to advise and finalize enrollment, monitor student progress and mentor the student during the course, proctor or arrange proctors for exams, and serve as a liaison between the student and online instructor. Raising Receiver Districts' awareness and understanding of the critical role they play in students' success by providing a local mentor for students is one of the key challenges facing the network.

While it is not required that a professional counselor serve as the TxVSN Site Coordinator, counselors do have the knowledge and skills to effectively fulfill the role. It is possible to have a single district Site Coordinator, a Site Coordinator per campus, or multiple Site Coordinators per campus. As part of the Receiver District registration process, all designated Site Coordinators are required to complete training on the role of the Site Coordinator. The TxVSN Site Coordinator Handbook also provides valuable guidance to support student success.

Provider Districts address parent-focused strategies to support student success in a variety of ways, using face-to-face parent-teacher meetings, conference calls, orientation meetings, or online training modules, etc. Receiver Districts also work with parents to keep them aware of their student's progress and to update them on information from the TxVSN.

Course-Based Practices

> *"This course was easier for me to understand than a face-to-face classroom setting. English is not one of my strong points and I really understood it."*
>
> — TxVSN Student

TxVSN Provider Districts may develop courses themselves, purchase or lease courses from a third-party provider, or both. Before submitting courses to TxVSN for review, a potential Provider District is expected to self-evaluate their course(s) to verify that they meet the TxVSN definition of an online course. They must also provide documentation regarding where each of the state's curriculum requirements can be found within the course. All courses listed in the TxVSN course catalog go through the TxVSN Course Review process to ensure that they meet 100 percent of the state's curriculum requirements at the appropriate revised level in the revised Bloom's Taxonomy of educational objectives and align with the iNACOL *National Standards of Quality for Online Courses*. In the case of Advanced Placement courses, the courses must be approved by the College Board prior to submission to TxVSN for review against the national standards.

For all secondary high school science courses, Texas Administrative Codes requires that students spend at least 40 percent of instructional time conducting field and laboratory investigations using safe, environmentally appropriate, and ethical practices. A special form documenting each field and lab investigation is required as part of the TxVSN Course Review to ensure that this "hands on" requirement is met. The form also includes descriptions of various types of hands-on, virtual, and blended hands-on/virtual investigations and provides examples that may be counted toward the 40 percent hands-on requirement, as well as examples of what may not be counted.

> *"A new student transferred into our school and needed German 2B in order to meet the Recommended Graduation plan requirements. Since our school does not offer German, this student was able to continue following his graduation plan by taking German 2B through TxVSN—it was the perfect solution!"*
>
> — Counselor at TxVSN Receiver District

Three independent reviewers certified in the content area review each course using the course review rubric developed by the network and submit their findings to the TxVSN Course Review Manager for analysis. The findings are combined into a single comprehensive report that is then reviewed by the TEA and, upon approval, is subsequently shared with the Provider District applicant.

Courses receiving an Approved rating are ready to be included in the catalog. Provider District applicants whose courses are rated "Approved, Needs Minor Modifications" are given 45 days to make the required changes to their course. The Course Review Manager and staff then confirm that the appropriate revisions have been made. A four-month revision period is allowed for courses receiving a rating of "Not Approved, Needs Major Modifications." The course is then re-reviewed by three independent reviewers to ensure that the modifications are sufficient to earn an "Approved" rating. If additional changes are still required, the Course Review Manager will work with the Provider District applicant to ensure the changes are made as needed. A new comprehensive report is then compiled, citing each of the required changes identified in the initial report and the reviewers' and the Course Review Manager's confirmation that all modifications are complete and the course is now "Approved." This report is sent to TEA for review and approval before being shared with the Provider District applicant.

After a course has been approved, the applicant is then approved as a TxVSN Provider District and they may enter their course information into the TxVSN course catalog, including a detailed course description with objectives, prerequisites, associated technology specifications, syllabus, types of course assessments, LMS, and costs (e.g., high school course fees for "unenrolled" students; higher education institution's fees, if any, for dual-credit courses; fees for special materials, such as graphing calculator, home science kit, etc.). The course catalog also includes course registration dates and course beginning and ending dates, number of course sections and seat availability, and any required materials provided by the Provider District or required of the student or Receiver District.

TxVSN Course Review is designed to ensure a quality, highly interactive educational experience. Although rigorous, the process results in reports shared with Provider Districts that offer the opportunity and detailed information needed to improve each course as needed, whether the course was developed locally or acquired through a third-party course provider working in partnership with the Provider District. Quotes from third-party providers whose partnering TxVSN Provider Districts recently completed the course review process illustrate this well.

"I wanted to . . . let you know how much we have appreciated the course review process for the TxVSN courses. Providing courses and full-time programs nationally, we have been through many reviews in many different states. We are always thrilled to find a rigorous review process that looks at the details of our program or specific courses . . . Outside reviewers also give us great feedback that we normally do not receive. Getting that different perspective challenges us to design courses that can be used by a wider variety of educators and meet national standards.

Most importantly, I wanted to thank you for your true spirit of partnership. I believe we are all focused on what is best for the student and we all want to understand our strengths while improving in areas that we need to overall. The rating system and feedback we have received from you have been clear, concise and fair . . . We feel like we are part of your team and are working with you toward mutual goals."

". . . I have been very impressed with the review process . . . I truly believe that we have upgraded our product considerably due to the evaluation and subsequent suggestions. I am confident that if we didn't already, we now have the premier online driver education course [classroom portion] in the country. The students of Texas will benefit greatly because of you and your team's efforts. I want to thank you for the kind and respectful way you dealt with our company from the first day I called you until the final day of completion. It was a pleasure working with you, and I commend you and your staff on your competence and timeliness during the process."

As a result of the TxVSN network approach, students and schools may have more than one choice in a particular subject if it is offered by more than one Provider District. They may select, for instance, their preferred Algebra I course taught by the Provider District of their choice. School personnel and students can review options to select the course that best meets students' needs. Just as the course design and instructional approach vary by Provider District, the technical requirements for the course and the Learning Management System (LMS) or Course Management System (CMS) also vary. Depending on the individual Provider District, the course may include the use of Webcasts, videoconferencing, webinars, and streaming video. Discussion boards, reflective journals, scheduled chat sessions, wikis, blogs, and podcasts are among the strategies used by Provider Districts to facilitate instructor-student interaction. Interaction among students may be encouraged through some of these same strategies, as well as through peer editing, peer review, collaborative projects and assignments, and group and oral presentations.

Currently, not every LMS used by TxVSN Provider Districts meets internationally recognized interoperability standard or is SCORM compliant, as required by the iNACOL *National Standards of Quality for Online Courses*. Because the TxVSN's network approach means there are multiple providers and multiple LMS, TxVSN does not require compliance at this time. However, this will be a requirement in the future. Any Provider District that submits a course for review whose LMS is not compliant receives notification in its final course approval report that the TxVSN Course Review will follow up twelve months from the date of the review to ensure the course modules have been made SCORM-compliant.

Future Plans

In spring 2010, TxVSN released an RFQ to identify an independent evaluator for the TxVSN projects. ICF International received the contract award and will partner with Texas-based Wexford Institute on the evaluation design and implementation. The TxVSN evaluation will address the overall effectiveness of the TxVSN, based on contractual and statutory directives. Data collected during the evaluation will provide insights into program operations and will provide research-based strategies and tools to measure student achievement and success in relation to the network. Evaluation products include a three-year evaluation plan, instruments such as surveys, questionnaires, interview questions, and case studies, as well as annual evaluation reports. These tools will allow the TxVSN to monitor its progress toward program goals on an ongoing basis.

The Advisory Council will continue to play an important role in the development of the network, with meetings to be conducted through a variety of avenues, including face-to-face meetings, webinars, and videoconferencing.

TxVSN will continue to recruit and add providers for both high school and dual-credit courses. The current dual-credit pilot will be opened up in the future to include additional colleges and universities and to provide increased opportunities for students to earn college credit while in high school. The course catalog will be expanded and the number of course seats increased to better serve the needs of students and districts. TxVSN Central Operations systems will be improved to better integrate with other state systems in order to supply Provider and Receiver Districts with increased access to information, communication tools, and functionality. Course submission and review processes will also be automated to streamline and increase the speed of reviews, while maintaining the network's focus on quality. The pool of trained course reviewers will be expanded, and the network's capacity to review greater numbers of courses increased.

To support increased district participation and student enrollment, and the continued growth of the TxVSN, outreach efforts and informational and marketing activities will be increased. The early focus on schools, curriculum directors, counselors, and administrators will widen to include efforts directly targeting parents and students.

TxVSN will complete three studies requested by the legislature and provide the resulting reports and recommendations to them in December 2010. Study topics include the feasibility of making language acquisition courses available through state subscriptions or other means of access, funding based on course type, and the feasibility of creating one or more series of courses for students in alternative education settings.

In 2010, a 508 Compliance and Accessibility Committee was established. The committee includes members from a variety of TxVSN stakeholder groups, including Receiver and Provider Districts, third-party course providers, expert advisors, and TxVSN and TEA staff. The committee is charged with creation of course accessibility and implementation guidelines. The guidelines will help build a better understanding of accessibility among all stakeholders and will assist Provider Districts in increasing the accessibility of their courses as they modify existing courses and as they develop new courses.

Links

Texas Virtual School Network Web site *http://www.txvsn.org*

Texas Education Agency, Educational Technology *http://www.tea.state.tx.us/technology*

Texas Education Agency, Electronic Course Program
http://www.tea.state.tx.us/index2.aspx?id=4826&menu_id=2147483665

The statements made in this chapter do not constitute the opinions or policies of the TEA; they are the writing and opinions of the author's alone.

Virtual High School Global Consortium

Liz Pape, President and CEO, VHS, Inc.

Carol Ribeiro, Chief Operating Officer, VHS, Inc.

The mission of Virtual High School is to develop and deliver standards-based, student-centered online courses to expand students' educational opportunities and 21st century skills and to offer professional development to teachers to expand the scope and depth of their instructional skills.

VHS ®
Inc.

Virtual High School
Global Consortium
www.goVHS.org

http://www.goVHS.org/

Historical Perspective and General Overview

Overview

The Virtual High School Global Consortium (VHS, Inc.) (*http://www.goVHS.org*) is an educational nonprofit that partners with schools across the United States and abroad to offer online courses. These courses are taught by high school teachers for students in participating schools. VHS is accredited by the Middle States Commission on Secondary Schools for special purpose accreditation (supplemental educational organization).

VHS is a collaborative of over 600 schools in 32 states and 43 countries. There are currently more than 200 full-semester and year-long online courses in the VHS course catalog. VHS believes in the three C's of online learning, which are central to VHS's philosophy and approach:

- Content – Students gain access to courses not otherwise offered at their school and learn *with* technology, instead of about technology;

- Collaboration – VHS offers cohort-based online classes as opposed to self-paced courses; students participate in discussions and conduct group projects; and

- Citizenship – Students collaborate in their online classrooms with students from all over the world, gaining global citizenship awareness and skills.

VHS has focused on the development and delivery of advanced, elective, technical, and interdisciplinary courses that complement a school's core offerings. Some of the courses VHS offers include Advanced Placement Statistics, Career Awareness for the New Millennium, Web Design: Artistry and Functionality, and Pre-AP-level English Language and Composition (*http://www.govhs.org/Pages/Academics-Catalog*). All VHS courses are taught by certified teachers from schools participating in the VHS collaborative. VHS courses and teachers meet VHS's design and delivery standards and are reviewed against those standards on an ongoing basis. Through Internet-based VHS courses, schools can significantly expand their curricular offerings, and at the same time integrate technology into their academic curriculum.

Virtual High School's local community is global. Hundreds of member schools from around the world participate in the VHS program. The diverse nature of Virtual High School makes it the only educational institution of its type. VHS is not limited by geography or demographics. Its unique environment enables students and educators from all socioeconomic backgrounds to learn from, and with, one another. VHS courses enable cohorts of students to participate in online classroom activities such as group projects, small-team activities, peer reviews, and online discussions that foster the development of 21st century communication and collaboration skills. Schools and students gain improved access to courses, opportunities for independent learning, increased student engagement and employment of 21st Century Skills, and exposure to online learning. VHS enables schools to offer Advanced Placement courses to their students that they otherwise would not have been able to afford, as well as numerous opportunities for students to take courses for enrichment and to pursue individual interests. Students are

able to be in class and work directly with their peers from around the world, providing them with a window into a world bigger than they are able to realize in their own school.

VHS uses educational technologies to give students and teachers access to resources and curriculum, and to prepare educators and learners to be skilled and confident participants in an increasingly technological world. Teachers who have had access to VHS professional development courses find they bring new technology skills, new teaching strategies, and a revitalized enthusiasm for teaching back into their local classrooms, thus passing the benefits of their experience on to countless additional students and colleagues. Students who have taken a VHS course find that the experience has helped them become independent learners and capable technology users, attributes that will help them succeed in college and compete in a technology-driven work force. High schools and communities have found that the success of VHS has generated support for additional technology and educational initiatives within their local districts.

Beliefs

The following are what VHS believes about online education.

- Student-centered online courses can be designed and delivered to students to promote a high-quality collaborative learning environment in which student exchange and interaction is a valued component of the instructional process.

- Educational opportunity need not be limited by barriers of time and place and lack of qualified faculty. Rather, VHS believes that high-quality education is possible—today—for all students in all locations. Online education offers any school with Internet connectivity a wealth of trained, experienced faculty members qualified in numerous disciplines, for teaching a wide array of courses designed to meet the needs of all students. An innovative, standards-based curriculum delivered online offers diverse, exciting learning choices for students, and the opportunity and skills to participate in a national and global community.

- Online teaching should augment rather than replace traditional classroom teaching. Virtual High School online courses are a proven, flexible solution for schools needing an expanded curriculum, teachers seeking new horizons, parents wanting more involvement with their children's education, and a society grappling with ways to offer opportunity to all of its citizens.

- The goals of education are advanced best by putting value and service first. When schools work together in a collaborative network such as VHS, they become part of an abundant and generous educational community that promotes the affordable sharing of professional resources.

VHS Leadership and Awards

Virtual High School has become a model for online learning programs across the country and around the world. VHS was honored with the 2001 Stockholm Challenge Award and the USDLA (U.S. Distance Learning Association) 21st Century Best Practices Award in 2005, 2007, and 2008. The Stockholm Challenge is a unique awards program that recognizes pioneering information technology projects worldwide. The Challenge focuses on the positive effects of today's information society and the benefits that information and communication technology can bring to people and society. VHS was awarded the Challenge Award in the education field, because as a pioneer in the field of online learning, VHS has developed strategies that make full use of the potential for collaborative learning over the Internet. Recognized as the standard of excellence for achievement in distance learning, the annual USDLA awards program acknowledges major accomplishments in distance learning and highlights those instructors, programs, and distance learning professionals who have distinguished themselves in the field.

VHS courses have also been recognized for their high quality, innovation, and student engagement. Awards and distinctions include:

- USDLA 2008 21st Century Award for Best Practices in Online Technology and K–12 Education

- USDLA 2008 Award for Online Pre-K–12 Programming Excellence, Silver Recipient

- USDLA 2007 21st Century Award for Best Practices in Online Technology and K–12 Education

- Blackboard Exemplary Course Contest Winner 2007

- USDLA 2005 21st Century Award for Best Practices in Online Technology and K–12 Education

- USDLA 2005 Award for Online Pre-K–12 Programming Excellence, Gold Recipient

- Blackboard Bionic Course Contest Winner 2005

- Magna Award, American School Board Journal

- Stockholm Challenge 2001 Award for Global Excellence

History

Virtual High School (*www.goVHS.org*) started in 1996 with a five-year, $7.4 million Technology Innovation Challenge Grant from the U.S. Department of Education. The purpose of the grant effort was to create a national consortium of self-sustaining hubs offering online

courses. The vision of the Principal Investigators—Dr. Robert Tinker of the Concord Consortium (*www.concord.org*) and Dr. Sheldon Berman, then Superintendent of Hudson (MA) Public Schools—as stated in their 1996 Technology Challenge Grant proposal, was to "create an online community of learners, to harness the power of the Internet to increase a school's curricular offerings, and to enable students to gain advanced technology skills."

Over the five years of the VHS grant, the project grew from the initial 30 course offerings in 1997/1998 to 156 course offerings during the 2000/2001 school year. Member schools grew from 28 to 232 schools located across 26 states and 11 countries. The initial research questions of the grant—"Can high school students learn from online courses?" and "What professional development is necessary to prepare classroom teachers to teach effectively online?"—were being answered through successful course design and delivery. The VHS grant effort moved beyond proof of concept and has become a demonstration model for many state-led initiatives. During the grant period, VHS staff met with staff from Kentucky, Michigan, and Illinois as they began the planning for their state-led initiatives. Annual evaluations of the VHS project were published by Stanford Research International (SRI), the grant evaluators, and contained information on VHS's teacher professional development model, course design standards, lessons learned, and infrastructure model to support K–12 online education. SRI later published a book, *The Virtual High School: Teaching Generation V*, which summed up their five-year evaluation effort of VHS, while also describing other models of K–12 online learning that had been initiated since the start of VHS in 1996.

During the third year of the grant (1998/1999), VHS staff from Concord Consortium and Hudson Public Schools began the planning necessary to transition VHS into a self-sustaining organization beyond the grant funding. Nearly $900,000 in grant funds from the Noyce Foundation were secured to assist in the transition efforts, which included the development of a business and marketing plan, the development and pilot of a new professional development course, additional course development, infrastructure development, and incorporation as a nonprofit. A Transition Board was formed to review all business planning efforts, and to develop the licensing agreement between Hudson, Concord, and VHS for all intellectual property developed under the grant effort. Communication with grant member schools was initiated, alerting them to the membership model that would support VHS beyond the grant and giving enough time so that schools could incorporate membership fees into their budget process for the 2001 school year.

Critical to the transition from a grant-funded model to a self-sustaining nonprofit model was the recruitment and retention of a sufficient number of schools to ensure membership revenue during the first years of transition to nonprofit. The number of schools participating in VHS increased from 87 to 232 between the fourth and last year of the grant. VHS staff communicated frequently with decision makers at the 232 grant schools during the last two years of the grant, notifying them that VHS would continue beyond grant funding as a membership-fee-based nonprofit, and giving sufficient notice of the fee structure to enable schools to incorporate continued membership in VHS into their budgets. As a result of early and frequent communication to grant-funded member schools, which received VHS services for free, nearly 80 percent of VHS schools agreed to pay an annual membership fee of $6,000 during the first year that VHS became a nonprofit.

In the initial few years of the grant, VHS used a unique model of course development: all courses were created by the teachers-in-training in VHS's 28-week-long course, Teachers Learning Conference (TLC). The vision of developing deeper curriculum design skills, as well as technology integration skills in classroom teachers, was met through this model. As VHS teachers continued to enter professional development to learn to teach online and create new online courses through the Teachers Learning Conference, it became apparent that eventually VHS would have a course catalog of unique courses whose numbers would become unwieldy. VHS needed to find a way to meet student demand for courses without increasing the enrollment cap of 25 students per course. The enrollment cap is based upon VHS's years of experience with cohort-based course design that develops collaboration and communication skills. VHS's course design and teaching standards require a strong teacher presence. Teachers are expected to attend their online courses daily; support and facilitate online discussions, group activities, and projects among students; provide feedback to student coursework submissions in a timely fashion; provide 24-hour turnaround on questions about assignments or technical issues; and submit updated course grades for every student every two weeks. Because of the VHS cooperative model in which a teacher is freed from one classroom teaching duty to teach a VHS online course, it is necessary that VHS limit the number of students in the online course so that the teacher can effectively work with each student, in approximately the same amount of time as is required for classroom instruction and preparation.

With Noyce Foundation funding, VHS developed a new professional development model for online teachers which enabled them to learn to teach online without the need to develop an online course. Netcourse Instructional Methodologies (NIM) was developed to train classroom teachers to teach their own section of an existing VHS course. Each course section would be similar, and would enroll no more than 25 students. The emphasis continued to be on the development of online teaching skills and an understanding of effective online pedagogy, while enabling the offering of additional course sections of high-demand courses to VHS students at member schools. Previously, VHS could only offer one training session of TLC each year, because of its duration. In contrast, NIM was offered during both the fall and spring, enabling schools to begin their membership during both semesters, and greatly increasing the numbers of schools VHS was able to recruit and train. NIM was first offered during the fourth year of the grant, and was the primary means by which VHS experienced such a large number of new school memberships during the last year of the grant.

The VHS Business Model

During the transition planning phase, the VHS Transition Board decided that VHS would continue beyond grant funding as a membership-based nonprofit educational organization. The VHS cooperative business model is based upon schools paying an annual membership fee to be part of the VHS consortium. Schools pay an annual membership fee based upon the number of course seats desired and share the teaching of the courses in the VHS course catalog by freeing a classroom teacher from one face-to-face classroom teaching assignment to teach one VHS course. In exchange, member schools may enroll students in any of the many locally taught courses that VHS offers.

VHS is a unique model—it receives no legislative or other form of state funding, nor is it a state-led initiative. VHS delivers its online courses across state and national lines, and member schools annually decide whether the value they receive from participation in VHS is worthy of membership renewal. As the only membership-based nonprofit collaborative in the online education industry, Virtual High School Global Consortium relies on the quality of its offerings to maintain its memberships. An extensive infrastructure exists to service and support students and their schools, and members are secure in the knowledge that as a nonprofit organization, VHS will always put its students first. Schools return year after year because they can be assured that they are receiving the highest quality student courses and teacher professional development in the industry. Because school districts invest their own educators in the program, and those educators in turn share their knowledge with their face-to-face colleagues and students, the benefits of VHS membership extend far beyond the students and teachers directly involved in the program.

The VHS business model is based upon the assumption that schools are willing to budget the cost of participation in VHS because of the value received. Participation in VHS does not alter the basic teaching cost structure of a school. One or more teachers are assigned to a virtual course instead of a face-to-face classroom. Because the students enrolled in the virtual courses are outside the school district, this reassignment reduces the number of students in the district who are taught by district staff. Assuming an average class size of 25, this loss is compensated for by the 25 students for each section contributed who are allowed to register in VHS courses. The net result is no change in the number of sections offered and students taught. This "zero sum" feature of VHS has three important consequences.

1. *Easy expansion*. Each school can tailor its level of involvement to its own needs. A school that wants more students enrolled in VHS has simply to offer more sections to the cooperative. Because this decision has no cost impact on other schools, the project as a whole can easily expand to fill whatever need is generated.

2. *Decentralization*. Most virtual course projects are highly centralized, offering new courses from a distant center. This model is difficult to finance, reduces the autonomy of the recipient, and threatens school faculty. Because it is highly decentralized, the VHS model avoids all of these problems.

3. *Union acceptance*. VHS has strong union support because it does not alter employment levels and offers teachers professional development and new employment options.

Implementing VHS does entail costs at participating schools. Computers and network access are required. For most high schools, this is not a major problem. The major costs to schools are the time required for online professional development and the Site Coordinator functions. In addition, the project generates central costs for teacher training, project coordination, student registration, technical support, server support, and evaluation.

VHS continues to refine its unique scalable model of K–12 online education through its work in defining online standards, online collaboration and community building, and professional development for online teachers. From its initial course offering during the 1997/1998 school year to approximately 500 students from states including Massachusetts,

Pennsylvania, New Jersey, North Carolina, New Mexico, California, and Washington, Virtual High School Global Consortium has grown to an international collaborative of over 600 schools across 32 states and 43 countries, offering over 200 courses to 15,000 students. VHS schools range from urban to rural, from large to medium to small, from high poverty to medium wealth, and from high-minority populations to 97 percent white.

Administration and Policy

VHS Cooperative Model

Virtual High School Global Consortium (VHS) is an educational nonprofit, not a diploma-granting school. It is built upon a cooperative model of partnering with existing brick-and-mortar high schools to bring online courses and 21st Century Skills development to students as part of their school day. Most students taking VHS courses do so as part of their school day, and the site-based school gives students course credits for VHS course completion.

VHS does not hire teachers to teach its online courses, which could result in the drain of teaching resources from schools. VHS works cooperatively with its member schools to train a classroom teacher, who remains at the school, to teach a VHS course. Each VHS instructor is a classroom teacher, released by a school for one period a day to teach the VHS course. These teachers receive online training by VHS in how to teach online effectively. VHS teachers who have concluded their training receive ongoing professional development through the VHS curriculum and instruction team which consists of experienced online teachers, certified in specific content disciplines. VHS teachers also have the opportunity to work in cohort groups with their peers, in order to share best practices and course experiences. Professional development opportunities are made available to them on topics of interest, to help them continue to progress as VHS online course instructors. The VHS course design stresses student interaction and helps instructors maximize the use of Internet-based resources and use of the best in multimedia technology. During its fifteen years of providing online professional development to teachers, VHS has trained nearly 3,000 educators.

Through its membership in Virtual High School, each school also identifies a Site Coordinator who acts as a local VHS administrator, course advisor, and technical resource for students who are taking VHS courses. The Site Coordinator is a valuable local liaison for students whose VHS teacher may be located in a different time zone. Each local Site Coordinator is responsible for enrollment of his or her member students in VHS courses, and works directly with the VHS Registrar to ensure that students find VHS courses that meet their needs.

The VHS cooperative model helps schools make available to students a vast array of courses not otherwise available. The school determines the extent of its participation in VHS and is not required to offer all of the courses in the VHS course catalog to its students. Many schools set a policy that if a course is already offered at the school by one of its classroom teachers, students should not enroll in the VHS course unless there is a scheduling conflict which makes it impossible for the student to take the face-to-face course. Students report (spring 2007 survey) that the two primary reasons they

enrolled in a VHS class (30 percent each) were that the course was not offered in their school and that they wanted to experience an online course. Students also reported that taking a course through VHS was attractive because it increased their qualifications for college and because it solved a scheduling conflict at their face-to-face school.

Policy Development and Implementation

VHS staff members have developed policies and procedures, which have been reviewed and approved by the VHS Board of Directors, to ensure that VHS's operations integrate well with those of its member schools, and are ethical, consistent, and fair in regard to its day-to-day operations and relations with parents, students, staff, and the educational community. All educational policies and procedures are annually disseminated to VHS staff, teachers, and students, through its online training courses for teachers and students, weekly communication with member schools, its Web site, and VHS publications such as the VHS newsletter, faculty and employee handbooks, and the Annual Report. As part of the annual VHS employee evaluation process, staff members are evaluated against their consistency in using and applying VHS standards. VHS ensures that policies and procedures are consistent with its philosophy, mission, beliefs, and objectives through its development and review process.

VHS policies have been developed to address teacher roles and responsibilities, detailing teaching standards such as course attendance/presence, expected response times to questions, facilitation of student discussions, providing quality feedback on submitted work, and mandated reporting requirements. VHS enrollment policies include course enrollment caps and school limits on enrollments in each course. Student and teacher policies also include student discipline, communication of IEPs, grading requirements, and teacher warning and probation policies. One challenge in the development of VHS policies has been the development of policies around the management of a teaching staff that is not directly employed by VHS. VHS teachers remain employees of the member school; it is through a strong partnership with the school that VHS can maintain quality teaching. VHS has developed a Faculty Sanctions policy which it has occasionally implemented. The policy describes the conditions under which low-performing teachers are placed on warning or probation status. The placement of a teacher on either status is communicated by VHS Administration to the teacher's school administration. On the few occasions when the teacher has not improved, and VHS has determined that the teacher will no longer be allowed to teach a VHS course, the member school administrators have cooperated with VHS and have trained a replacement teacher, in order to maintain the quality of the teaching of VHS courses for all students.

To communicate its mission, beliefs, and educational philosophy to parents, students, staff, and the educational community, VHS uses the VHS Web site, Annual Report, newsletter, weekly e-mail announcements, and service ticket communications. VHS publishes an Annual Report, which is publicly available on the VHS Web site and mailed to all member schools' superintendent offices. VHS newsletters are published twice each year, during the fall and spring semesters. The VHS newsletter is mailed to all member schools and is publicly published on the VHS Web site. Weekly e-mail announcements are sent to the VHS community of teachers and Site Coordinators, and monthly e-mail announcements are sent to VHS member school principals and superintendents.

VHS governance and administration maintain constructive relations with one another through regularly scheduled VHS Board meetings in June and October, as well as monthly meetings of the VHS Board Executive Committee. VHS administrative team members meet bi-weekly to maintain appropriate oversight of VHS daily operations, as well as to monitor VHS's performance as it relates to annual goals.

Program Evaluation

VHS is annually evaluated by an outside evaluator to determine if it is meeting its quality, growth, and program goals. The evaluation is published on the VHS Web site (*http://www.govhs.org/Pages/WhyVHS-Home*) then select Results in the left navigation bar. Input from member school superintendents, principals, VHS teachers, VHS Site Coordinators, and VHS students is collected as part of the evaluation process. VHS has developed a Quality Benchmark Indicators program to measure the quality of its courses, professional development, and program services. The data to determine the Quality Benchmark Indicators is collected as part of the annual program evaluation.

Outcomes and Lessons Learned

VHS evaluates its performance by measuring growth and quality, using both hard data and survey input from member school superintendents, principals, teachers, Site Coordinators, and students. Results are published in the annual evaluation reports which are conducted by an independent evaluation team. Recent program evaluations illustrate VHS program effectiveness.

- VHS is currently providing online AP courses to over 1,000 students from diverse backgrounds. The enrollment in AP courses has doubled over the past three years, yet the AP exam passing rate remained stable. Last year, for example, 62 percent of students taking the exam earned a passing score (defined as a 3 or above; Margolin, Akerstrom, & Reese, 2009).

- VHS has had success in attenuating the achievement gap based on economic opportunity. As described in the 2006/2007 VHS program evaluation, students from Title I schools (across all VHS courses) had a course passing rate that was only slightly lower than students from non-Title I schools (75 percent compared to 81 percent; Learning Point Associates, 2008).

VHS staff uses growth and quality data to determine annual goals, as well as to develop and revise the VHS five-year strategic plan.

VHS annually sets and measures growth goals. Growth is measured by the number of schools, students, and courses in VHS. During 2001/2002, when schools were required to pay an annual membership fee to be part of the VHS collaborative and were no longer supported by grant funding, VHS experienced a decline in the number of schools and courses. However, no such decline in the numbers of students enrolled in VHS courses was experienced (see Figures 5, 6, and 7).

VHS Quality Benchmark Indicators

The VHS mission statement "to develop and deliver standards-based, student-centered online courses to expand students' educational opportunities and 21st Century Skills and to offer professional development to teachers to expand the scope and depth of their instructional skills" focuses VHS's efforts on two primary areas: development and delivery of online courses, and preparation of classroom teachers to be effective online teachers. A third area of focus is to create a membership model of program services that enables VHS to be a self-sustaining nonprofit organization.

The VHS Strategic Plan, 2004–2009, describes how VHS would attain its three areas of focus: course quality, professional development quality, and program services quality, with several goals delineated for each focus area. Annually, the VHS Administrative team develops its goals and budget based upon the goals of the Strategic Plan, survey data from students, teachers, Site Coordinators, principals and superintendents, and Quality Benchmark Indicator performance data in the three focus areas. An example of this process is the recent decision to bring technical support in-house, instead of contracting it to an outside vendor. Survey data from teachers and Site Coordinators indicated low satisfaction levels with the VHS helpdesk provider, and VHS indicators also showed long response times by the vendor in resolving technical service tickets (requests for technical assistance from VHS teachers and Site Coordinators). As a result of the survey input and data indicators, the VHS Administrative team developed a plan to phase out the helpdesk vendor, hire and train additional technical staff within VHS, and bring the entire helpdesk function within VHS. VHS will monitor helpdesk response times and helpdesk traffic (numbers and types of technical support requests), as well as evaluate end-of-year survey data to determine whether or not the new approach has improved the helpdesk support function.

VHS Quality Benchmark Indicators annually measure VHS's online course quality, quality of professional development, and quality of program services.

- Quality of Courses (see Figures 15-1 and 15-2).
  Rigor and quality of VHS courses are measured by AP exam pass rates, percentage of AP students taking the AP exam, course completion rates, and percentage of students taking courses for credit recovery who recover credit. During 2008/2009:

  - Sixty-two percent of the VHS AP students who took the AP exam passed with a score of 3 or higher. The VHS cumulative AP exam pass rate, from 2000/2001 to 2008/2009 is 62.3 percent;

  - Eighty percent of VHS AP students took the AP exam;

  - Eighty percent of all VHS students successfully completed their VHS course with a grade of 60 or higher;

  - Sixty-eight percent of students who took summer courses to recover course credits successfully completed their courses; and

  - Survey data indicates high levels of satisfaction with development of 21st Century Skills, student collaboration, and student engagement in VHS course content.
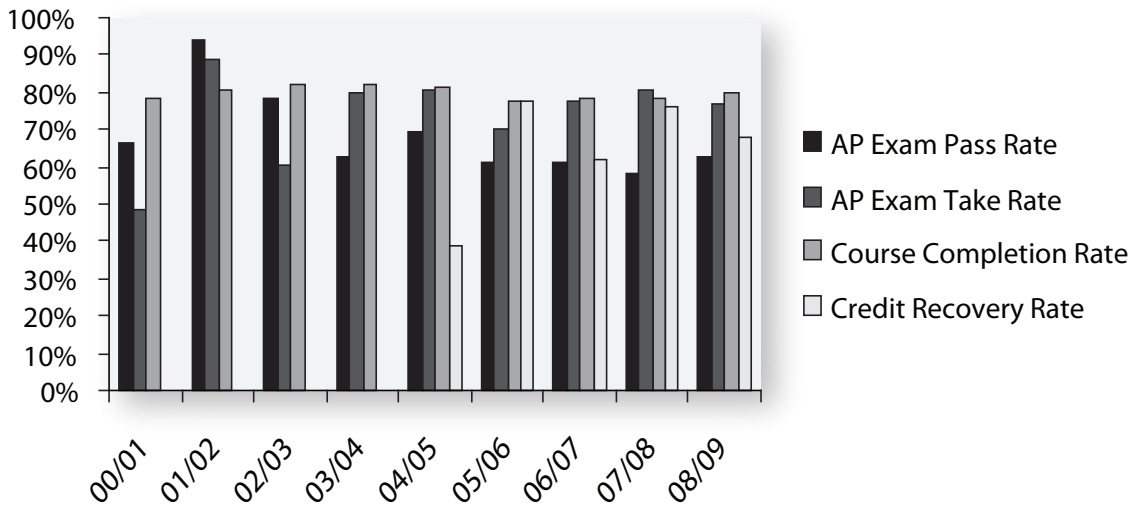
Course Quality Benchmark Indicators

Figure 15-1. VHS Course Quality Benchmark Indicators, 2000–2009

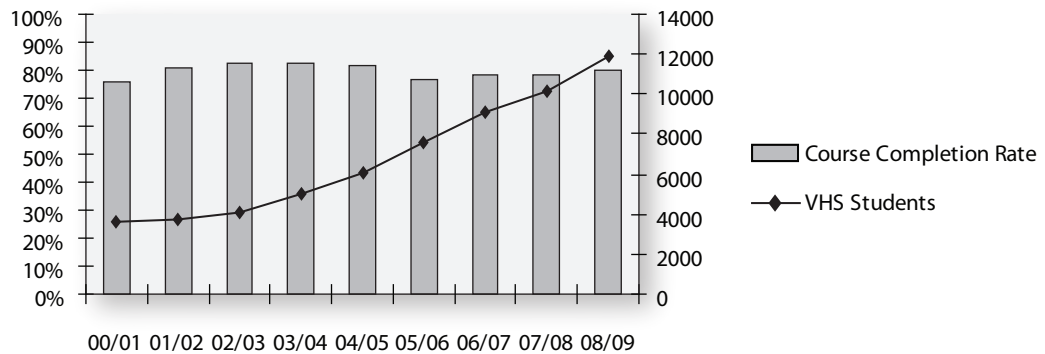## Course Completion Rate Over Enrollments

Figure 15-2. VHS Course Completion Rate Over Enrollments, 2000–2009

- Quality of Professional Development (see Figure 15-3).
  VHS provides online professional development to teachers to develop the necessary pedagogical and technical skills to succeed as online teachers. Indicators of the quality and rigor of VHS's teacher professional development program are the percentage of teachers who successfully complete the online professional development course as evidenced by demonstration of online teaching skills mastery, and the percentage of teachers able to successfully navigate their first semester of teaching online, meeting all of VHS's standards for online course delivery. In 2008/2009:

  - Ninety-three percent of VHS teachers successfully completed VHS training; and

  - Ninety-one percent of VHS's first-year teachers demonstrated the successful habits of practice of effective online teachers.

PD Quality Benchmark Indicators
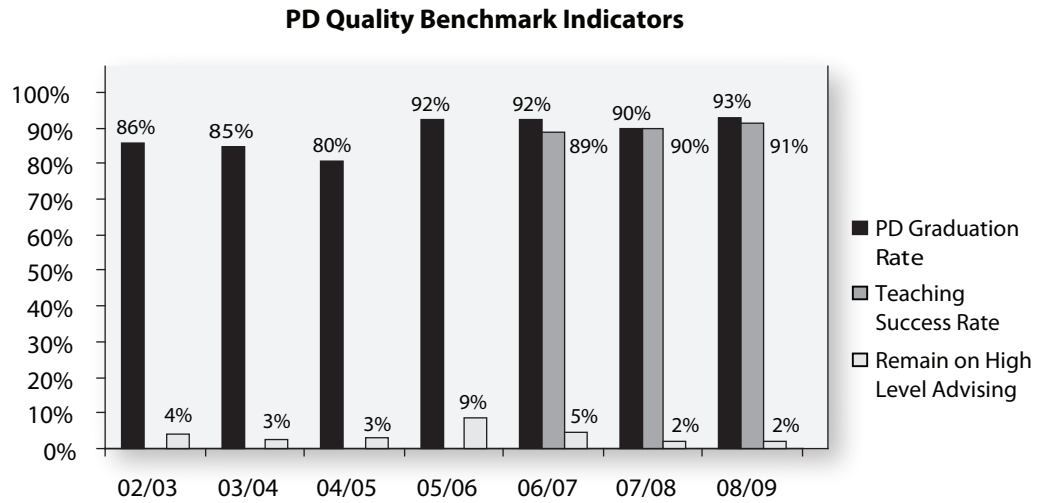
Figure 15-3. VHS Professional Development Quality, 2002–2009

■ Quality of Services and Program (see Figure 15-4).
Most VHS member schools participate through an annual membership contract, which requires renewal every spring for the following school year. Indicators of the quality of VHS services and program are membership retention rates and school seat enrollment utilization rates. The membership retention rate is defined as the percentage of schools that renew membership from one school year to another. Seat utilization rates are based upon the number of student seats a school uses as a percentage of the total number to which the school is entitled as part of its membership contract with VHS. In 2008/2009:

■ Ninety-one percent of member schools renewed their membership; and

■ Member schools utilized 68 percent of the student enrollment seats they were entitled to and, overall, 78 percent of available VHS student seats were utilized.

Program Services Quality Benchmark Indicators
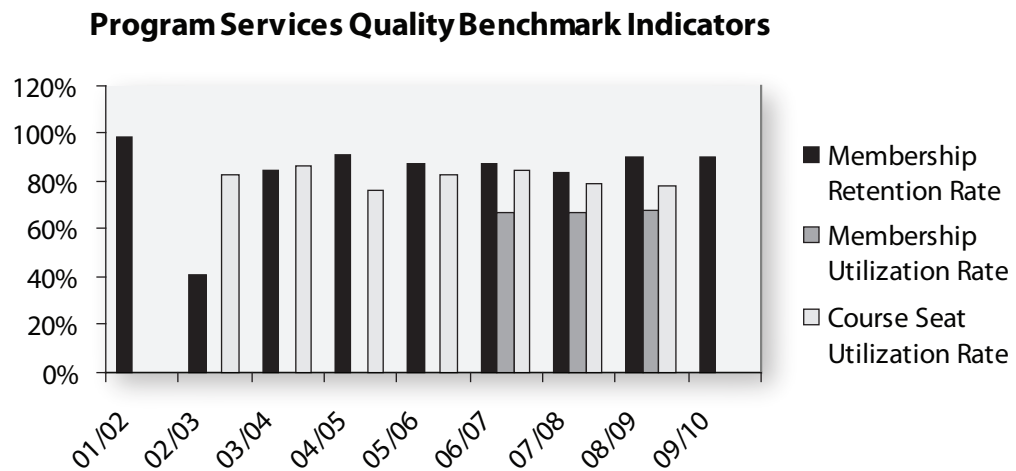
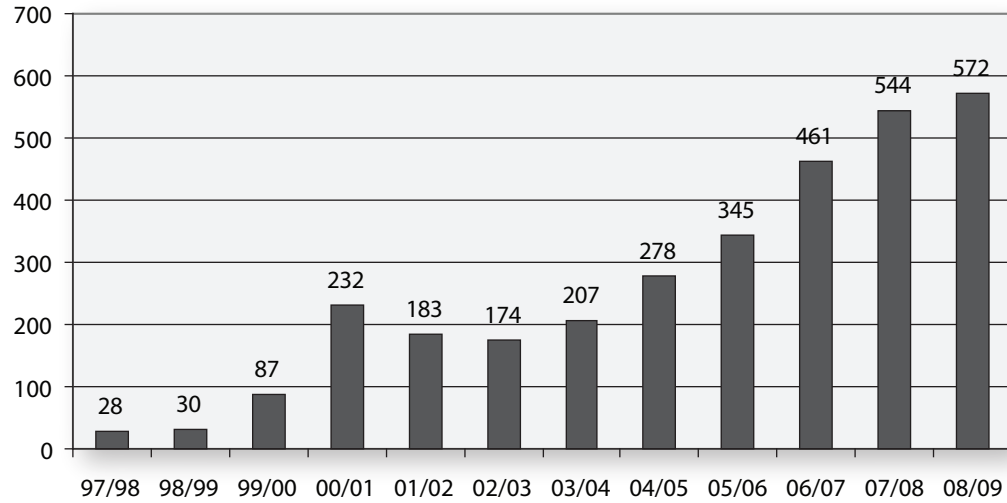**Figure 15-4.** VHS Program Services Quality, 2001–2009

Lessons Learned

VHS is about to enter its fifteenth year of online course delivery. Since its start in 1996, VHS has delivered over 2,000 course sections to over 65,000 students (see Figures 15-5, 15-6, and 15-7 for a history of the growth of VHS). Nearly 3,000 educators have participated in VHS's online professional development. Through this fifteen-year process, VHS has learned several important lessons.

- Keep the focus: The VHS team remains focused on education. VHS has learned to develop skills around education and to outsource the rest. VHS started with a strong belief in the educational value of Internet-based courses developed and delivered in partnership with existing brick-and-mortar schools. VHS translated its beliefs into effective online pedagogy and professional development that develops 21st Century Teaching and Learning Skills. VHS has learned that online education is a valuable tool for fostering collaboration and global citizenry skills. VHS has learned that when collaboration exists between local schools and online education providers, online courses are an enhancement to, not a replacement for, face-to-face instruction.

- Provide adequate services and preparation: Classroom teachers need professional development in order to be effective online teachers. Students need training and support services and personnel in order to succeed in online learning, and schools need partners, not competitors, in delivering quality education to students.

- Maintain quality: Early on, VHS developed course design and delivery standards. Those standards are the measures used to evaluate the quality of VHS teachers and courses, and are the foundation of the VHS Quality Benchmark Indicators program.

- Measure and report that which is important: VHS has learned to listen to students, teachers, administrators, and the public, through feedback mechanisms on the VHS Web site, through annual surveys, and through face-to-face meetings. VHS has also learned the importance of communicating its performance, through its Quality Benchmark Indicators program and the publication of its annual program evaluation.

These valuable lessons gave VHS the confidence to grow in its beliefs around the possibilities of online education, and to grow more skilled at the design and delivery of effective online courses.

Number of VHS Schools

Year	Value
97/98	28
98/99	30
99/00	87
00/01	232
01/02	183
02/03	174
03/04	207
04/05	278
05/06	345
06/07	461
07/08	544
08/09	572

Figure 15-5. VHS Growth of Schools Served, 1997–2009

Number of VHS Courses

Year	Value
97/98	30
98/99	37
99/00	94
00/01	156
01/02	134
02/03	121
03/04	154
04/05	184
05/06	216
06/07	241
07/08	293
08/09	353
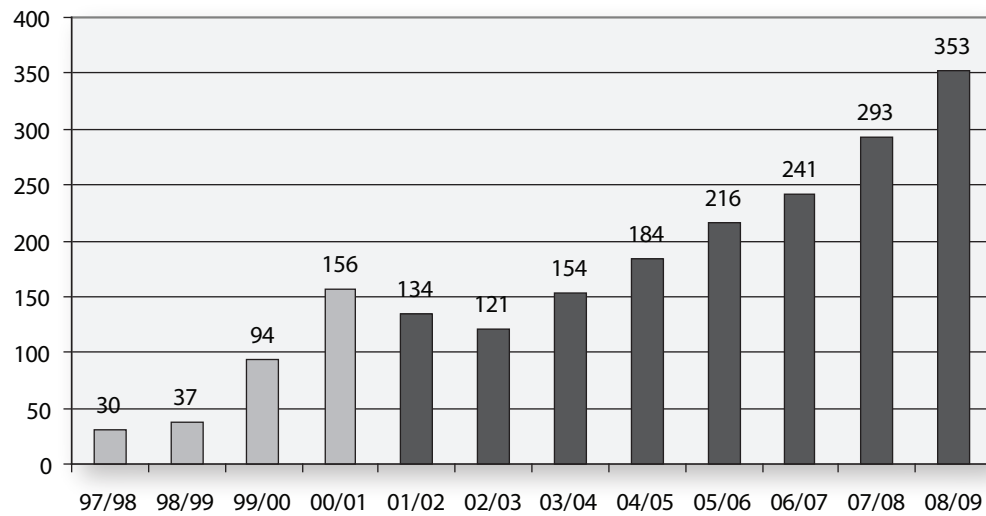
Figure 15-6. VHS Growth of Courses Served, 1997–2009

Number of VHS Students
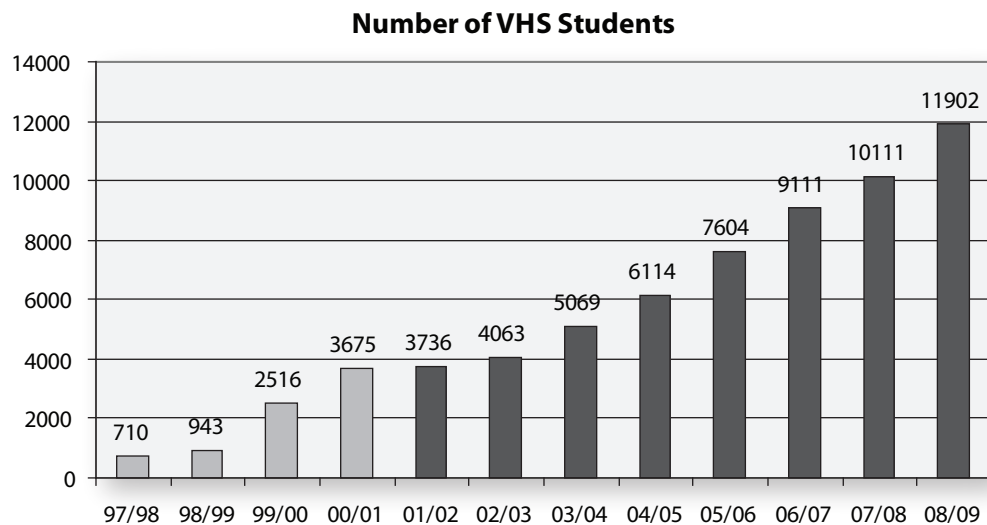
Figure 15-7. VHS Growth of Students Served, 1997–2009

Best Practices

Focus on Online Pedagogy, Not Online Tools

When VHS began training its first cohort of teachers in early 1997, focus was on the development of online course pedagogy while development of the learning management system, which was behind schedule, continued. VHS staff focused on creating a community of online learners and did not focus on the technology of the courseware, since that was not available. Teachers discussed what features from face-to-face teaching were critical elements in online courses, developing a model of VHS online course design which is still used by VHS to this day. Once the courseware became available for use, with a clear vision of how VHS teachers could be most effective online, the task of using the courseware for course development actually became easier. As a result of a "problem," even after twelve years of VHS online professional development, all VHS online professional development courses still start with community building and collaboration, and all VHS courses and teachers still adhere to VHS's online course design and delivery standards.

Focus on Standards

Standards are an integral part of how VHS maintains its online course and teacher quality. For school administrators, teachers, students, and parents, standards are a critical determinant of online course quality. By understanding how standards are used in course design and delivery, consumers and purchasers of online courses can judge whether or not a course is of high quality. VHS has worked with the National Education Association (NEA) and other national policy-making groups to publish a set of standards that can be used for this purpose.

To review these standards, see *http://www.nea.org/assets/docs/onlinecourses.pdf* and *http://www.nea.org/assets/docs/onlineteachguide.pdf*.

With VHS design and delivery standards in place, VHS strengthened its online course design and delivery process. All VHS courses are evaluated against the online course design standards while in development, culminating in semester-long courses that meet VHS design standards. Delivery standards that address expectations about online teacher performance during course delivery are clearly communicated to VHS teachers as part of their professional development. VHS monitors its professional development facilitators to make sure they effectively model VHS standards. During delivery, all VHS teachers are assigned an online mentor during their first semester of teaching a Virtual High School course. All VHS courses are monitored and evaluated weekly during their first semester of delivery through VHS's unique mentoring model. Those teachers that do not meet VHS standards for delivery continue to work one-on-one with their mentors to achieve the standards. Those that have met the standards receive support from the VHS curriculum and instruction team as needed.

Model-the-Model Teacher Preparation Format

In the VHS model, considerable time and energy goes into the professional development and evaluation of online instructors. No teacher is allowed to teach in VHS without successfully graduating from one of VHS's professional development courses, Netcourse Instructional Methodologies (NIM) or Teachers Learning Conference (TLC). Because VHS was designed to be a collaborative of existing schools, all prospective VHS teachers are existing faculty members of member schools; they are *not* hired directly by VHS but remain under the authority of their individual school districts. Due to the unique 24/7 nature of online education and the geographic distribution of VHS teachers and member schools, VHS's professional development program is conducted entirely online in the medium in which teachers will deliver their courses. VHS employs a "model-the-model" format, in which teachers become students in an online course, engaging in collaborative, metacognitive discussions similar to those that their high school students will engage in. Professional development participants discuss what does and does not work effectively online and reflect on the nature of the new medium they are experiencing as students during their training.

VHS teachers-in-training engage in study groups, team projects, and facilitated discussions that allow them to have a clear understanding of exactly what it is like to be an online "student" and to experience the same difficulties that their students may encounter when they, as teachers, assign such activities. Through detailed analysis and sharing of the process, these same participants are required to offer strategies to each other to help ensure student success on similar activities; for example, the need for specific expectations and rubrics before the activity begins, and the need for periodic updates and feedback throughout the process. Research has shown that the collegial discussions and supportive feedback provided in the VHS professional development model has been an effective catalyst for educational change in participating schools. SRI International, the independent evaluator of Virtual High School during the grant years, stated in their published evaluation of Virtual High School, "Benefits to teachers extended to non-VHS courses. Aside from using new technological skills in regular classrooms, teachers indicated that they were

using new teaching or assessment approaches in their other courses (year two, 61 percent; year one, 55 percent). Both principals (62 percent) and superintendents (68 percent) also said that teachers used new teaching and assessment approaches in other courses.

"Having worked this year developing my course, I have grown in more ways than I can explain. It's not just that I have had to learn a whole new virtual world; it's that being involved in long-distance learning has heightened my awareness of all aspects of my face-to-face teaching. For example, I work harder to clarify directions. I try to find new ways to connect with students and families. I am more inclined to encourage my students to use technology to solve problems and find information simply because I am more and more comfortable and confident with it myself. I shouldn't say "simply"; there's very little about this kind of learning that is simple, except for the fact that it is so exciting and powerful. And people who say it is impersonal haven't experienced what I have . . . .Being a part of a virtual community is as dynamic—though not visually—as is being a part of any group of people who share common goals /interests . . . Simply know that I've loved being a part of VHS."

— Deborah Baker, VHS teacher

VHS teachers start as students in their online professional development courses. The courses begin with icebreaker activities as part of the community-building process. As teachers become acquainted with one another, they begin group projects and team-building activities. These assignments are built around readings and discussions on collaborative learning, curriculum standards, assessments, and course design standards. Because teachers access and interact in their professional development course entirely online, as their students will in their high school courses, their focus is on learning in the virtual environment. Teachers learn the importance of student-centered learning, high levels of interaction and discussion among online students, and collaborative activities that use the medium effectively to transcend time and place. This philosophy of collaborative, student-centered learning remains a vital part of VHS's course design, and is reflected in current VHS course design and course delivery standards. Teachers are given opportunities to reflect on these teachings and to discuss how these elements and lessons will impact their online instruction.

Site-Based Support for Online Students

The local member school liaison, the VHS Site Coordinator, serves a critical role in the support, mentoring, and monitoring of participating students. In the VHS model, VHS courses are primarily offered to students as part of their school day at their high school to help ensure equity and access to VHS courses for all students. Part of the success of the VHS model has been the requirement that VHS member schools provide Site Coordinators who help support the local VHS teachers and mentor the member schools' students enrolled in VHS courses.

The VHS Site Coordinator role was developed as a means of offering on-site support to the student for both the online learning experience and learning in a technology-rich

environment. The VHS Site Coordinator is trained online as a student in an online learning environment. The Site Coordinator receives VHS professional development via the Site Coordinator Orientation (SCO). The Site Coordinator Orientation (SCO) is a four-week-long, two-graduate-credit online course. VHS Site Coordinators are trained in how to use the VHS online registration and grading systems, as well as how to provide elementary-level technical assistance to VHS students at their schools. VHS recognizes SCO as a critical experience for the Site Coordinators, because it gives them an opportunity to experience the online learning environment and technology first-hand—as a student would. Site Coordinators also have access to the VHS faculty Web site and all of the support mechanisms, such as VHS technical support, that are in place for VHS course instructors.

Partnership with Member Schools

To support member school participation, each member school receives access to the VHS Handbook, which contains guidelines for VHS instructors, Site Coordinators, local guidance counselors, and school administrators. Policies and procedures for instructors, as well as student conduct, are detailed. The VHS Handbook includes, but is not limited to, policies on FERPA, Mandated Reporting, Nondiscrimination, Plagiarism, Special Education/Equity, Education Plans, Technical Requirements, and VHS Mission and Beliefs. In addition, guidelines for student selection are outlined, so students can be better matched with the courses that best meet their needs. Virtual High School also provides annual surveys to all of its constituents, including principals, superintendents, teachers, and Site Coordinators from participating schools. Survey focus includes the quality of course instruction, satisfaction with course offerings and availability, and overall program satisfaction. Survey results are analyzed annually by the VHS administrative team, and feedback is summarized by an independent evaluator. Suggestions for improvement are outlined based on survey results, and annual goals are established to institute change.

Because VHS has a strong annual program evaluation effort in place and uses its Quality Benchmark Indicators to assess performance, it has developed best practices which directly result in high learning outcomes for students. Feedback is gathered through a mature course and technology infrastructure from all participants within the collaborative, as well as from local school administrators, to help ensure student success.

Preparing Students for Online Courses

To help ensure that students are adequately prepared prior to taking a VHS online class, Virtual High School has developed a pre-enrollment survey and Student Orientation. The pre-enrollment questionnaire is designed to help students think about why they are interested in an online experience. All VHS students are required to take a comprehensive online student orientation prior to the start of their VHS course. The Student Orientation describes expectations for student participation in their VHS course, as well as providing a course platform overview. Each student is also provided with a program outline for parents/guardians, so the entire family is aware of expectations for VHS participation. The Student Orientation is one of the first assignments for every VHS course and was developed during the first year of VHS operations. During the first semester of VHS's

online course delivery, the students that were dropping out of the courses were reporting that one of the primary reasons for dropping out centered on confusion around how to engage in the online course. Students felt they didn't have the necessary knowledge and skills to work in the online course platform. VHS staff developed the Student Orientation in response to that need, and VHS saw an immediate increase in course completions.

Because VHS courses are not self-paced—they are highly interactive virtual classrooms led by course instructors whose goals are to help students gain critical thinking skills and improve content knowledge—students have access to their teachers 24/7. Instructors are available in the classroom space via the course discussion areas, as well as within each classroom's private "office space," which provides students the opportunity to speak with the course instructor one-on-one if needed. Virtual High School administrators monitor all classroom interactions for appropriateness and provide assistance when required. Local school Site Coordinators are also available to assist students, to act as student/teacher/VHS liaisons when necessary, and to answer any parental questions regarding the VHS program. The VHS Web site contains areas specifically tailored to students, parents, and the community at large, so that frequently asked questions can be addressed. All visitors to the VHS site have access to the VHS contact center, where they can provide Virtual High School staff members with feedback and suggestions for improvement.

Additional services beyond course delivery are provided to support the successful participation of students in VHS courses. VHS provides the administrative, management, training, technical, and delivery services that allow its member high schools to offer online courses to their students. VHS has put into place the systems that allow students to register for courses online, enable students to receive grades securely online, offer technical helpdesk support to students and teachers, and build community among its member schools, teachers, and students. VHS is also responsible for ensuring that servers are managed to support a 24/7 online classroom environment, securing and maintaining privacy for students and teachers, and monitoring that teachers are fully participating in their classes, as well as working appropriately with students.

Communicating with the Community

Although VHS is not a school, its online presence resembles a school's physical presence. The VHS Web site is the access point for students and teachers entering their online courses. It includes additional services found in traditional schools, such as course registration, grading, a catalog of courses offered, and a faculty lounge. It also includes some not-so-traditional offerings, such as online course evaluations, a centralized area where teachers have access to ongoing professional development, and a knowledge base for online help. Over the years, VHS staff realized how critical this online presence is, not only in facilitating online course delivery, but also in building community among all VHS teachers and students. While effective course design can build community within an online course, an effective online portal can build community among all members of the VHS community.

Just as a traditional school has visitors in the main office, VHS needs to provide information for those visitors who are interested in learning more about online education, as well as specific facets of VHS. VHS's online presence includes both public and private areas so that students,

faculty, and staff remain safe and secure, while visitors still can get the support they need. To ensure confidentiality, security measures are in place within the private areas of the VHS Web site. For example, students can only access the course(s) for which they are registered. Teachers can only post grades for the course(s) they are teaching. Logs are maintained on student and teacher access to courses. These and other measures are in place to keep students, faculty, and course data secure. At the same time, VHS welcomes visitors who want to learn more about online education to the "public" face of the Web site. The VHS Web site has become a gathering place for those interested in learning more about online professional development and education. Unlike a traditional school, VHS's online presence provides a way to safely and securely open doors to all those who have an interest in education, regardless of their geographic location, and share experiences on life in the cyber-halls of Virtual High School.

Future Plans

As part of its future plans, VHS has identified three areas it would like to improve and expand.

■ Performance in content knowledge and online navigational skills by VHS students as measured by VHS's course completion rate Quality Benchmark Indicator, end-of-semester grade performance data, and student satisfaction survey data;

■ Participation in VHS professional development courses for classroom teachers as measured by enrollments in VHS's 21st Century Teaching and Learning Best Practices online professional development courses; and

■ Participation in VHS program services and satisfaction with the VHS program quality as measured by VHS schools' seat utilization rate and the involvement of all members of the VHS community, including students, teachers, Site Coordinators, school administrators, and parents.

Increasing Student Success

VHS has developed a vision, mission, philosophy, and belief system focused on the effective design and delivery of online courses to support student success and learning in VHS's courses. Course standards, preparation of online teachers and Site Coordinators, online teaching standards, preparation of students for the selection and participation in VHS courses, and appropriate infrastructure—including registration, grading, and feedback systems—are all essential elements necessary for successful teaching and learning in VHS. VHS's student performance objective to have students demonstrate increased content knowledge and online navigational skills will involve many of those VHS operational elements.

Part of VHS's mission is to break down the barriers to quality education for all, and one of the means to achieving that goal is to develop courses that support the success of all students. VHS courses are not meant for an elite population of students or students who are hand chosen to be successful. Rather, in alignment with its mission, VHS wants to expand educational opportunities for all students and to develop innovative, student-centered online courses that have the capacity to meet the learning needs of a variety of

students. In order to fulfill that part of the VHS mission, VHS will work to discover ways to appeal to a larger population of students and provide instruction that is not only rigorous but also encourages students to engage and persist in their course of study. This goal involves analyzing what types of learning activities motivate the 21st century student, incorporating those instructional elements into VHS classes, teaching VHS teachers how to create and maintain said elements, and monitoring instructional success rates, such as course completion rates and course grades, to ensure that the objective has been met.

China, Mandarin, VHS, and Global Education

Xiang-Yu Jin (English name: Doris King), Jia-cun Dai (English name: David Dai), and Heather Smith (Chinese name: Hai-Zhen Shi) describe their work using adjectives that span the emotional spectrum—from "overwhelming" to "relaxing," from "enriching" to "fun."

Deep in the trenches of practical global education, they can point out the inevitable challenges faced by teachers reaching across continents. "Teachers need to pay more attention to how they communicate with students," Doris King recommends to those working globally. And teaching in one's own second language (English, in this case) requires some mental adjustment, David Dai points out.

But they could just as well mention their students' diversity as their commitment. Students taking Mandarin through VHS come from as far afield as the Alaska Panhandle, Martha's Vineyard, the Arizona desert, and coastal Venezuela. And the student population encompasses the whole range of experience and motivation from polyglots who have already mastered a second European language to linguistic neophytes, from "heritage kids" who grew up in Chinese households but never learned the language to sly teenagers hoping to master a secret means of communicating beyond the understanding of their parents. They are all risk-takers, though, comfortably jumping into a new universe of foreign sounds and picturesque writing. And this is important when learning what is generally regarded as the world's second most difficult language for English speakers.

Equally important, though, is the development of a global mindset, free from the strictures of one language or culture. As David Dai poetically puts it, "Global education makes learning beyond countries possible." And VHS's borderless approach to learning meshes with this international worldview. Bonnie Elbaum, the multi-lingual VHS faculty advisor for the Mandarin course, adds, "I have been able to teach from two different countries, two different coasts in the United States, and three different time zones."

Increasing Classroom Teachers' Participation in VHS Online Professional Development Courses

As opportunities available within the online environment have expanded, so has Virtual High School's vision of the educational community that can be served by these alternatives. The quality and rigor of VHS's teacher professional development and mentoring program has led to VHS online teachers becoming more effective classroom teachers. Dr. Susan Lowes, Director of Research and Evaluation at the Institute for Learning Technologies at Teachers College, Columbia University, conducted a research study on how VHS teachers have improved their classroom instructional practice as a result of their VHS professional development and VHS online teaching experience (Lowes, 2006). Over 60 percent of VHS teachers reported that the changes to classroom teaching were in the areas of assessments (adding peer reviews), course design (eliminating lessons that now seemed poorly designed as a result of their VHS training, redesigning, and or adding lessons using Backward Design principles which they had learned in VHS training, adding online lessons/units to face-to-face lessons), and communication (providing more detailed instructions). Because Virtual High School's professional development for VHS members has had such a positive impact on member teachers, Site Coordinators, and students, it became clear that professional development offerings needed to expand to serve both the educators at VHS member schools not filling teacher and Site Coordinator roles and the educators and administrators who comprise the educational community at-large. VHS has applied Dr. Lowes's research to the development and delivery of its online professional development courses, 21st Century Teaching and Learning Best Practices, which it has delivered for the past four years.

These National Education Association (NEA)-approved courses are unique in that they focus on bringing the best online practices into face-to-face classrooms. Through these Best Practices courses, educators expand their technology literacy and learn Information and Communication Technology (ICT) skills, learn to incorporate online resources into classroom instruction, understand how to promote active independent learning experiences for students by joining the best features of in-class teaching with online learning, learn to use Web 2.0 tools to generate new and exciting learning experiences for students of all abilities and learning styles, and even get the opportunity to experience online teaching partnering with a VHS online master teacher in an established middle or high school course. The ultimate goal of these Virtual High School professional development courses is to expand opportunities for teacher education and collaboration. Teachers become students and share ideas with their peers in courses conducted entirely online, eliminating the travel funding and substitute teacher stipends necessary for traditional professional development. In the 2009/2010 academic year alone, over 300 classroom teachers who may never have experienced online course delivery have utilized VHS Best Practices courses to learn the 21st Century Teaching and Learning Skills they need to prepare students for lifelong success.

Increasing VHS Membership Participation and Satisfaction

VHS is not an institution as much as it is a collaboration of many schools and school districts around the world. It is only as strong as its member schools. VHS has always sought opinions from its constituents in the form of annual surveys of school administration and staff, and bi-annual survey of students. VHS plans to increase the involvement of all members of the VHS community, including students, teachers, Site Coordinators, school administrators, and parents, and meet target response rates on constituent surveys. VHS also plans to increase participation in VHS program services and satisfaction with the VHS program quality as measured by VHS schools' seat utilization rate.

VHS has an effect on education that reaches far beyond the thousands of participants involved in the project. There is evidence that change effected through Virtual High School reaches beyond the virtual classroom. Teachers who have completed VHS professional development courses report they are bringing new technology skills, new teaching strategies, and a revitalized enthusiasm for teaching back into their local classrooms, thus passing the benefits of their experience on to countless additional students and colleagues. Students who have taken VHS courses find that the experience has helped them become independent learners and capable technology users, and they pass these skills on via daily interactions with peers, family members, and teachers. High schools, communities, and entire states have found that the success of VHS has generated strong partnerships between corporate and educational entities, as well as support for additional technology and educational initiatives within their regions. In the future, Virtual High School Global Consortium intends to continue to build upon its solid foundation of student-centered standards-based education, in order to maximize the satisfaction of its member schools, and most especially, its students.

A Day in the Life of a VHS Student

Have you ever wondered what taking an online course means to students in their day-to-day school lives? When do they work? Do they send their assignments via e-mail? What kinds of courses are offered? Do they have to stay up late to work with their classmates in other time zones? To answer these questions one of our VHS Site Coordinators, Carol Neeland, from Shekou International School (SIS), Guangdong Province, People's Republic of China, wrote about a "typical" day of one of their VHS students, "L," a ninth grader. Strictly speaking, the events of the story did not all happen in the same day. To introduce the many different facets of a VHS course, events of several days have been condensed into a story about one day. "L" is one of 28 SIS students currently taking a course online through VHS. Her fifteen-week online course, Poetry Writing, is one of over 200 semester-based online courses offered by Virtual High School.

8:00 a.m. Computer lab.

"L" checks in at the computer lab during the period that has been set aside for VHS students. Ninth graders have five hours each week to work on VHS during the school day. "L" is one of the seventeen high school students who is earning over 90 percent in her VHS course, which means that she can sign out and go to the library, the library deck, or the courtyard to work. It's warm and sunny outside, so "L" decides to work on her latest poem "Where I'm From" on the library deck. The high school students' wireless laptops connect them to the Internet from almost anywhere on the SIS campus. "L" opens up Internet Explorer, checks the homepage of the VHS Web site for recent announcements, and logs in to her NetCourse with her username and password. She starts her VHS day by going to the Private Thread area of her course—a place where she can privately ask her teacher questions when she doesn't understand an assignment. She sees that her teacher has responded to her latest question and has given her feedback on one of her poems. The teacher, Elizabeth Sanchez, conducts the course from Forks High School in Washington State. Ms. Sanchez writes, "In your poetry I've noticed a real talent for your use of imagery." I asked "L" what she thought of Ms. Sanchez's comment and she said, "It's really nice to receive comments like these. I find it really encouraging." On another poem Ms. Sanchez commented, "A magical poem, "L"! You've created vivid images with the use of your descriptive language." Next, "L" goes to the Lessons area of her course, and clicks on this week's lesson: Revise and Remember. She reads all of the documents posted by her teacher, including the assignment overviews, background information, and instructions. She prints the weekly checklist and then double-checks the due dates so she can decide how to balance her time this week. "L" writes all of her assignments in a small, red notebook so she can keep track of the work for all of her classes. Next, "L" takes an online quiz about the poetry of Walt Whitman and the use of metaphors, similes, and personification. After each question in the objective section, she receives immediate feedback. However, there are two essay questions that Ms. Sanchez will read and comment on later. At the end of the class period, "L" returns to the computer lab to pick up her checklist from the printer and asks me if it would be possible for her to take two VHS classes when she's in tenth grade. One of her classmates in the United States is taking two VHS classes at the same time and is really enjoying them both. "L" has been checking out the VHS catalog at: *http://www.govhs.org/Pages/Academics-Catalog*. There are many different courses that she is interested in: Animal Behavior and Zoology, Latin, Web Design, and Caribbean Art History . . . but for now she is off to Ms. Aguilera's art classroom.

10:15 a.m. Break at the high school.

"L" has a few minutes before her Physics class starts, so she opens her laptop and logs in to the VHS Web site again. She is hoping that Ms. Sanchez has posted her grades from Week 4 in the Grades area of her course. She discovers that she is still doing well. She decides to read Ms. Sanchez's comments about her work later when she has more time to think about and enjoy them. She logs out of the VHS site just before Ms. Yong-Macdonald starts the Physics lesson.

3:00 p.m. After school.

After school, "L" goes to the Coffeehouse area of her course. All VHS teachers create a place for students to get to know each other and have off-topic discussions. This helps to keep the regular discussion threads on topic and gives students a chance to learn more about their online friends in other parts of the world. "L's" twenty-three Poetry Writing classmates this semester are physically located in many different schools in the United States and around the world. Ms. Sanchez starts off the thread with: "Welcome to the Coffeehouse! This is the spot to get to know your classmates . . . hang out . . . talk about the weather . . . whatever. Well not exactly "whatever" . . . this is still school. Please keep it appropriate and this is definitely not the place to look for a date. Hint: I read everything." In the Coffeehouse "L" has been having a discussion with two girls named Angel and Jenny who want to know what it's like to live in China. VHS discussions are "asynchronous" which means that "L" doesn't have to stay up in the middle of the night to have a discussion with her classmates in the United States and South America. Each day, she reads what her classmates wrote while she was sleeping. She writes a quick reply to Angel and then decides to get started on her journal writing for this week. The topic Ms. Sanchez has given the class is, "A Time to Remember." She usually asks the students to write 500 words or more. For this topic, Ms. Sanchez has even included links to songs that might help the students recall and write about one of their favorite memories. Journal writing is one of "L's" favorite parts of the class and Ms. Sanchez has commented, ""L", you've got journal writing just right! You let your thoughts pour out and write them down as they come. Perfect." "L" works on her journal for a little while and then logs out and starts on her homework for her other classes.

7:00 p.m. Home again.

"L" spent much of the afternoon on homework for her Humanities, Physics, and Math classes. After dinner, she goes to the Public Assignments area of her VHS course to read the rough drafts of the poems that her classmates wrote. She comments on one girl's use of conflict and on the beauty of the last line of another girl's poem. Finally, she reads the other students' comments about her own work. A girl named Megan suggests to "L" that one section of her latest piece could be even better if she added some figurative language. The comment that really catches her attention, though, is from a girl in New Jersey named Keri who writes how much she enjoyed "L's" poem. Keri said, ". . . It has mystery to it because it's so personal." "L" thanks Keri and tells her that she had been working on homework for her other classes all afternoon and had been feeling really tired until she saw what Keri had written. "L" was so happy to see Keri's comment that she wrote, ". . . now I have something to smile about." She is still smiling as she logs off for the night.

So ends another day in Virtual High School.

My VHS Experience

by Amber Grenier, VHS Student, Marlborough High School, Marlborough, MA

My love of science is what made me sign up for a virtual course, and I love the class. It is different from a regular class but not completely different. Unlike most classes in my school this is an elective and everyone in my class enjoys the topic and is in the class because they want to be there, not because they have to be there.

One of my most amazing experiences happened when we were given an assignment where my class created a Biotechnology timeline with key events in biotech. I chose the cloning of Dolly the Sheep. The scientist that cloned her, Ian Wilmut, had an email address on one Web site I visited so I wrote to him. A few days later I got a reply! I was so excited! I posted it in my VHS course, and printed a copy and showed everyone. It was amazing.

Amber's email and response: My name is Amber Grenier and I am a junior in high school living in Massachusetts. I am currently working on a Biotechnology Timeline with my Virtual High School. My part of the timeline is on you and Dolly and how it has changed the way we view biotechnology. It would be very exciting if you would write back to me and my class. You are an important person and just making the time to reply would be a treat to my online class. I want to be a genetic engineer someday and I love animals. I have one question specifically from me. What do you know about bringing back the Tasmanian tiger by cloning the preserved thylacine pups? What is your view on it? Thank-You very much.

— Amber Grenier, Marlborough, MA

Dear Amber, I am delighted that biology excites and interests you so much. I am afraid that I do not have encouraging news for the Tasmanian tiger. To clone an animal you have to have a complete set of the genetic information that you can use. You also need an egg of a species that is sufficiently closely related to the extinct species that it can be used for normal development. Finally you have to have a female who can mother the clone. So with our present knowledge and techniques that seems very very difficult indeed, almost impossible. However, I do believe that we should collect and store all of the information and tissue that we can, because you never know what might be possible in the future, particularly if young people like you become really involved.

Best wishes to you and your class,
Ian

Ian Wilmut OBE, FRS, FRSE, Director Centre for Regenerative Medicine,
The Queens Medical Research Institute, University of Edinburgh

The Global Classroom: A Lesson in Diversity

by Miranda Whitmore, VHS teacher, Medfield High School

I work in a small, wealthy school district where the students have it all. They have parents with the resources to be involved in their children's education. Their extracurricular programs are strong and their standardized test scores are high. The dedicated faculty provides students with the best possible preparation for the elite colleges they will surely attend. These kids would seem to have everything and yet they are plagued by one deficiency; they don't know anything different.

Over and over again my coworkers and I lament at the singular nature of our students' experiences. They live in a safe, comfortable, homogeneous world and have trouble even conceiving of anything different, much less empathizing with it. No matter how much we can describe other human conditions, show movies, or read books about them, we can't seem to give our students the direct experiences with diversity that they need in order to become thoughtful, compassionate world citizens. The traditional means are simply too dry and removed. One of my constant struggles has been searching for a medium that would meaningfully connect my students to people with different worldviews than their own. Little did I know that opportunity lay right at my fingertips in my VHS class!

It was as much a surprise to me as it was to my students when my casual mention of a comment from one of my VHS students kicked off a conversation in my face-to-face class that changed everything. One day my sophomores came in grumbling, the way teenagers often do. I don't remember what the issue was, but it was one of the usual complaints (there aren't *enough* lunch options, we don't have fast *enough* computers). A comment about school culture from one of my online students was on my mind, so I decided the moment was apt to share it. The student had honestly described the woeful physical conditions in her tiny school but simultaneously painted the picture of a warm, nurturing place for learning. She had written, "We finally got doorknobs a year ago, and we are a bit underdeveloped. Also, there are frequent problems with electricity and water. These are minor problems, however, that do not really affect the learning experience, and therefore, I do not really view them as problems. Plus, we cannot really do anything about the electricity, and no one needs doorknobs anyway!" Wow . . . that really put it all in perspective.

Now, I shared the comments with my face-to-face students in an admittedly finger-wagging way. I just wanted them to feel guilty about their complaining, but they were absolutely fascinated with this young woman and wanted to hear more about her and her school. Upon hearing that I taught students from all over the world, they wanted me to log on and show them my class along with other posts. They wondered excitedly about what she must experience daily and how it compared to their own experiences. The bottom line is that for once they *cared*. They asked me a million questions about that girl from a poor school system in a foreign country rather than staring at me like zombies as I read from an anthology of world literature. And thus, I had finally found the medium I had been looking for to expose my students to diversity. Whether it was simply because it strayed from the prescribed curriculum, because it involved a computer, or because they were hearing from a real person their own age, they were smitten. Now I'm trying to develop ways for my classroom class and online class to connect formally and regularly because I've realized that my students can teach one another far better than I ever could alone.

Links

http://www.goVHS.org is the homepage of Virtual High School Global Consortium

http://www.goVHS.org/Pages/Academics-Catalog for the VHS course catalog

http://www.goVHS.org/Pages/WhyVHS-Home and follow Results link on left navigation bar for VHS's Annual Program Evaluation Reports

http://www.nea.org/assets/docs/onlinecourses.pdf for the Guide to Online High School Courses

http://www.nea.org/assets/docs/onlineteachguide.pdf for the Guide to Teaching Online Courses

http://www.ilt.columbia.edu/publications/lowes_final.pdf for the Online Teaching and Classroom Change: The Impact of Virtual High School on its Teachers and Their Schools report

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Exploring and Expanding on Lessons Learned from K–12 Virtual Schools

Richard E. Ferdig, Research Center for Educational Technology, Kent State University

Erik W. Black, University of Florida

Kim Mulkey, Integrity Research & Consulting

Introduction

This book began with an introductory examination of the present state of virtual schooling research, followed by an overview of the current national landscape of online and blended learning. Thirteen virtual schools then provided insights into their current procedures, lessons learned, and outcomes they recommend as best practices. Those chapters provided readers with in-depth analyses of practice from the words of the administrators, teachers, parents, and students that were involved in the day-to-day activities of a virtual school.

As we conclude, we return to a 10,000 foot perspective and begin to ask more specifically about our 80/20 principle. What outcomes and lessons have we learned from the virtual schools that are consistent across all institutions

who shared their stories? Conversely, what unique features, contexts, or strategies could be highlighted as either: a) items readers should keep in mind as unique to a given situation and, therefore, probably not transferable; or b) items readers should consider strategies that could supplement/change what they are currently doing?

To extend this discussion, and given this context, where should researchers focus their energies? What policies should legislators put into place after being confronted with this individual and also national purview? How should virtual school leaders consider adapting their practice, given issues being explored in other states? How should virtual school teachers better prepare or more fully engage the various participants of a virtual school landscape?

To begin to answer these questions, we return to the original structure the book authors were asked to follow. We synthesize recommendations according to: a) history and administration; b) outcomes and lessons learned; c) best practices; and d) future plans.

Throughout this chapter we have included 80/20 summaries. These summaries are not intended as qualitative assessments of virtual school practices, but as observations of trends in virtual school operation. Additionally, these recommendations do not represent existing needs in every virtual school. Many of these recommendations actually come from the success of existing programs. These recommendations are meant to highlight successful practices as well as existing needs.

History and Administration

1. Understand the role of the virtual school.

   Many of the virtual schools had histories that seemed to center around policymakers, parents, teachers, and/or inventive thinkers turning to virtual learning as a way of addressing multiple concerns, including seeking to improve graduation rates, providing students and parents with choice and opportunities, and bringing quality curriculum to all students throughout their state. A majority of the schools represented in this book officially started by an act of their legislature and were placed within the State Department of Education to be managed. This act by the legislature placed states in the position of delivering instruction directly to students—a job primarily performed by the local school districts. In this new role, many face-to-face schools would initially consider the virtual school a threat to their funding—an obstacle many virtual schools are still addressing. Many virtual schools quickly found themselves in an overwhelming situation with multiple demands coming from all directions—policymakers, schools, parents, and students.

Although some virtual schools were established with a particular purpose in mind, others in and out of the education community often turn to virtual schools to assist with a broad range of needs. In most cases, the legislation for virtual schools was general enough to allow the virtual school flexibility in adjusting the role they could play in serving students of their state.

However, the demands did not provide time for the virtual school to build the infrastructure required to deliver a virtual learning environment, i.e., developing new skills (teachers skilled in virtual teaching), new technical infrastructure (registration and learning management system), digital content, and a communication network. Instead, virtual schools found themselves addressing educational needs beyond their original purpose. Without a formal evidence-based method of determining and setting priorities within the state, as well as evolving the strategic role virtual schools would serve in the overall educational delivery system of the state, it is difficult to focus resources to meet expectations in addressing the local and statewide issues. Unless the approach changes, virtual schools will be considered supplemental not core (critical) to states in carrying out their responsibility for delivering a quality education to all the children of their state.

It is critical to investigate the implications for state education agencies taking an ad hoc approach to virtual learning to resolve issues, such as equity, teacher shortage, education continuity (i.e., a research white paper for policymakers, such as that found at *http://www.pff.org/issues-pubs/pops/pop10.3unepimpact.pdf*). It will also be important to develop systematic approaches to determine how to leverage virtual schools to resolve statewide educational issues and the governance needed.

In exceptional cases, virtual schools formed partnerships, planned deliberately to fill specific educational needs in the state and region, used a rigorous research bases, and focused on excelling in their educational roles. Cases in which careful attention and time were given to planning, funding, research and development need to serve as models for improvement across virtual schooling.

80% Trends	20% Trends
Virtual schools were formed by state legislation in response to educational needs and operate in departments of education.	Virtual schools were formed as a planned activity, such as a grant, local project, or a response to research, and operate as independent entities.

2. Develop funding model(s) to scale virtual schools.

Throughout the book, evidence is provided that students, parents, schools, and districts have benefited from virtual schools. Traditionally, educators had to work within their community to resolve issues they faced. With the advent of communication technologies, the education community has a broader base for solving problems and enhancing the opportunities for students. Virtual schools provide a flexible, pliable, cost-effective means of addressing concerns of individual parents, students, schools,

districts, and states. Problems are not one size fits all, and neither are solutions. Virtual learning provides a new unit of measure for solving the problems across the board.

For a majority of the state-led virtual schools, the legislature appropriated the monies for the schools at their inception and in most cases through their early years. To this day, most of them are still dependent on legislative funds to operate. Therefore, enrollment is often limited to the amount of funding available to the virtual school. In the absence of a funding model that is flexible enough to allow virtual schools to expand based on demand versus 'cap' enrollments that are based on a set dollar amount, growth will be stifled and traditional schools will not be able to count on the virtual schools for courses being available for their students.

Some of the virtual schools that are thriving, growing and serving the broadest range of needs have been decoupled from state budgets and allowed to operate through per-student dollars and entrepreneurial efforts.

80% Trends	20% Trends
Virtual schools operate under state budget allocation.	Virtual schools operate under other funding mechanisms such as per-student dollars and entrepreneurial funds.

3. Work with legislators, policymakers, and stakeholders on multiple levels to encourage support for virtual schools.

Education is not mutually exclusive to other issues within the state or local communities, as we have seen in the last few years. The economic crisis has created a series of unprecedented events in education, such as teacher furloughs, layoffs, school closings, and shortening of the school year. Demands by policymakers and the public will only increase the need for economic growth and national and global competitiveness. Education, as always, will be a key component to economic growth.

Among the virtual schools participating in this book, the ones that had greater autonomy in managing the operations from the setting of traditional education organizations had more flexibility of choice for the student, parent, school, and district. For example, these schools have policies that allow students to take their course at a location other than the school and complete coursework beyond the school day or traditional school grading period. Also, these virtual schools require the student to be responsible for providing the technology needed to participate in an online class. However, the virtual school would provide technical assistance to the student, parent, teacher, school, and/or district if needed.

In short, at either the local, school, or state level, these virtual schools have worked toward policies that have been more virtual school-friendly. There is a need for continued legislation at multiple levels to ensure that virtual schools can build on their early successes.

Responses to this policy call have produced some mixed results. For instance, legislators from several states have created policy that requires students to complete at least one online learning 'experience' before graduating. However, in the field, discussions and acceptance of standards, accreditation, and accountability are still in their infancy, thus impacting the ability to promote policy. This is due, in part, to the limited amount of existing research available. As more research and best practices emerge, so, too, will the standards and approaches to both policy development and accountability.

With these issues in mind, virtual schools will need to investigate and recommend policies that enable home schools/local schools/districts to utilize virtual learning/schools to assist them with their issues, i.e., expanding and enhancing their curriculum, addressing teacher shortages, and education continuity. They will need to explore methods of accountability and measurement for state-delivered instruction to students. Finally, the research field will need continued funding to document best practices so that policies can be formed.

80% Trends	20% Trends
Enrolling in state virtual school courses is a choice made by students, parents and educators for individual students. Quality expectations are determined at the school level.	Virtual school courses are an integral part of the public school curriculum. Quality expectations are described in state standards, are evaluated, and are reported publicly.

4. Explore collaborative roles and responsibilities of face-to-face schools and virtual schools to enhance student success in virtual learning environments.

Getting the word out was up to the virtual schools, and they sought to gain the approval of the local schools and districts as a form of instruction for their students. In many cases, the virtual schools created unique forms of partnerships. As in the case of VHS, as a nonprofit membership-based organization, schools partnering with VHS are required to provide a teacher to VHS as an instructor. For other virtual schools, their instructors (part-time instructors whose primary teaching responsibilities were at a local school) would become advocates to assist in their outreach efforts throughout the state.

In most cases, the local school assigns the credit for the virtual class to the student. In the United States education system today, testing primarily drives educational accountability. Local school districts are the reporting organizations to the state. Given that virtual schools do not have a role in this reporting process, educators have not treated them as equals and therefore they are considered non-essential (discretionary). Virtual schools have sought new ways in defining accountability, such as being paid on completion rates.

Virtual schools have worked diligently to develop relationships with brick-and-mortar schools to provide local support to the students participating in virtual learning. Virtual schools have developed requirements, such as schools approving students' participation, on-site facilitation, and providing the technology needed to take a course. In some instances, these things are not required but

simply encouraged. One of the most pressing issues for virtual schools is the breakdown between students, local schools, and the virtual schools in determining the support needs of a student who has signed up for a virtual course.

However, unlike the traditional view of integration of technology into the classroom (e.g., computers, interactive video/audio, and the Internet), these technologies used in combination provide virtual learning opportunities that restructure time, place, pace, content, and sources of instructional leadership for the local student, school, and district. This also places states and traditional schools in the position of having access to learning resources beyond the school day. Educators will want to explore innovative ways in which virtual schools and traditional schools could collaborate for the design, development, and use of digital content for both learning environments.

80% Trends	20% Trends
Student performance outcomes are measured at the school level. Student screening and support are provided in the student's local community. Courses have a level of time and place flexibility.	Student performance outcomes are subject to state standardized test requirements. Student screening and support are part of the services of the virtual school. Courses follow traditional school schedules and calendars.

5. Understand the role that boards and departments of education can have within the greater mission of the Virtual School.

State and local boards of education have a role in establishing policy that requires schools and districts to include the utilization of virtual services in meeting the needs of students and to establish common measurements of accountability regarding student performance for schools, districts, and virtual schools. As such, the ability to partner with such boards has been and will continue to be an important venture for virtual schools.

However, most virtual schools have also developed external advisory boards made up of prominent members of business, government, and society. Virtual schools have found success when they were able to inform these members of their outcomes, thus increasing their ability to advocate for policies, funds, and building new relationships with education, government, and industry. Virtual schools will need to continue to work within local and state governments, as well as internal and external boards, to promote the existing work and the potential work in solving local and state education problems and opportunities.

80% Trends	20% Trends
Virtual schools effect change through advisory boards and existing educational structures.	Virtual schools actively advocate and lobby for supportive policy at local, state and national levels.

Outcomes and Lessons Learned

1. Build on existing and future partnerships, including school, university, research, and evaluator collaborations.

Many of the state-led institutions discussed in the preceding chapters have established collaborative relationships with other virtual schools, colleges and universities, and industry and not-for profit organizations. Collaboration may be as simple as cooperative curriculum development or curriculum sharing between virtual schools. More in-depth partnerships leverage university expertise in online course delivery and development to ensure quality. State universities have a vested interest in ensuring high-quality online learning within the primary grades, considering that many of these online students will matriculate into the state university system.

Research collaboratives such as the Southern Regional Educational Board (SREB) provide resources for professional development and licensure and serve as a central location for expertise. Another valuable resource, The Virtual School Clearinghouse (*http://www.vsclearinghouse.com*), serves as a national university-collaborative research operation, established to assist virtual schools with the collection and analysis of data. The VSC team anticipated that virtual schools lacked the expertise needed to conduct rigorous quantitative analysis of their own data to help shape student outcomes.

By leveraging their relationships with vendors and other industry relationships, virtual institutions can shape the products upon which their curriculum resides. A prime example is Florida Virtual School's collaboration with Blackboard, Inc., to answer pressing questions related to course delivery in extreme circumstances, such as those encountered by gulf-state residents following Hurricane Katrina in 2005.

Finally, successful state-led virtual schools have embraced the use of external evaluators to assess, audit, and provide feedback of institutional goals and objectives. Program evaluation involves a systematic methodology for investigating effectiveness. Evaluators, particularly those who are external to an organization, can discern 'what works' and 'what does not work' in an unbiased manner, providing stakeholders with valuable data for their growth and improvement.

80% Trends	20% Trends
Virtual schools collaborate with a range of educational and corporate organizations to sustain core school functions such as curriculum and professional development initiatives.	Virtual schools collaborate with a range of organizations to improve the school and disseminate knowledge through innovations, research, development, and model programs.

2. Prepare for exponential growth.

Regardless of longevity, each of the institutions profiled has experienced explosive growth. Growth was not just limited to student enrollments, depending on the

dissemination model used by individual states; growth was also accounted in school district adoption and individual school participation. The United States has experienced an unprecedented growth in both the availability and the participation in online education programs, as detailed in these chapters. Regardless of the measure used by individual institutions, evidence provided in the previous chapters indicates that annualized growth of 50 percent has been common.

In order to maintain their successful endeavors, virtual schools must develop strategies that enable them to manage their infrastructure in the face of anticipated explosive growth. These strategies must be applied to technology infrastructure, human capital (teachers and administrators), student services infrastructure, and even marketing and public relations. It may be appropriate for a virtual school to develop partnerships with colleges and universities, vendors, and other stakeholders in order to influence the design and development of products and services that could have positive effects upon desired outcomes. Several virtual schools profiled provide examples of mutually beneficial partnerships with colleges and universities.

Maintaining accountability to stakeholders while engaging in dramatic growth will be a challenge for both today's and tomorrow's institutions. Given the absence of federal guidelines for accountability, the Trujillo commission's report (Donnell-Kay Foundation, 2007) and subsequent recommendations for virtual schools provide a template and guideline for virtual schools to manage and appropriately account for the growth and oversight of virtual schools until federal guidelines for oversight, data collection, and data reporting can be developed and initiated (Black, 2009).

80% Trends	20% Trends
Virtual schools use scalable technologies and practices to meet growing demand and accommodate new audiences with high quality programs.	Virtual schools form strategic partnerships for continual improvement while growing.

3. Find ways to retain both students and teachers.

Students have historically been K–12 virtual schools' most vocal proponents, but they also have high expectations for content, instruction, and access (Oliver, Osborne, and Brady, 2009). Student retention is a common concern among the featured institutions; as such, quite early in their experiences, many institutions adopted similar practices by incorporating a trained mentor or facilitator to act as a face-to-face proxy when needed. In traditional schooling environments, teacher outreach that includes active involvement practices—parent-teacher meetings, regular progress updates, and a consistent exchange of learning materials between the home and school—result in improved student performance and retention (Westat and Policy Studies Associates, 2001). Virtual schools that are not already engaging parents need to develop effective outreach practices that provide opportunities for parents to engage and understand the work their student is completing online. Finally, virtual schools need to be prepared for a more heterogeneous student population. While virtual schools do attract some diversity,

Black (2009) and Cavanugh, Barbour, and Clark (2009) discuss the relatively homogeneous student population that has engaged in virtual schooling to date. Virtual schools need to consider outreach efforts to both attract and retain students from low-socio-economic backgrounds, those with special needs and learning disabilities, and non-white students.

Teacher retention is highlighted by several institutions as a particularly strong outcome associated with virtual schooling's unique operating environment. While there is some variation among the states, retention levels of more than 90 percent are common in the states featured here. Institutions cite a commitment to teacher professional development, mentorship, and flexibility. Teachers have commonly served as a source for innovation, founding online clubs and working in collaboration on technical and research projects with colleagues, industry, and academic institutions. As virtual schools continue to expand, new opportunities for teacher training and development must be considered. One approach is to provide pre-service teachers with the opportunity to engage in a virtual school experience. It is anticipated that those who engage in this experience are more likely to choose careers as virtual school teachers (Kennedy, 2010). A second approach is for virtual schools to work with universities and state and federal government to build, review, and instantiate teacher endorsements for teaching K–12 online.

80% Trends	20% Trends
Virtual schools provide tutors, mentors, or facilitators to support students. They provide courses to expand educational options for mainstream and accelerated students. Virtual schools support teacher professional growth and quality.	Virtual schools provide individualized teacher-student and teacher-parent communication. They have programs designed for professional development and support to serve students in at-risk and special needs groups. Virtual schools are integrated along the teacher career ladder from preservice through leadership.

4. Understand the funding dilemma/opportunity.

Several online schools (Alabama, Colorado, Georgia, North Carolina, Idaho, VHS) highlight experiences with state legislatures and granting bodies while discussing funding. Citing both the challenge of keeping pace with explosive growth and the need for collaborative, open relationships with departments of education, policymakers, and parents are critical. Additionally, virtual schools find it necessary to proactively educate policymakers about the benefits of K–12 virtual learning and the opportunity that is provided through distance-based education. The present economic climate has offered virtual schools the opportunity to further endear themselves to administrators and policymakers who are faced with tightening budgets and forced to downsize teaching staffs, and to districts who were once reticent but now are embracing opportunities to supplement curriculum and continue to meet student needs. Virtual schools do not need to go it alone; they can enlist parents and other volunteers to contact their state representatives on behalf of the virtual school. If your virtual institution does not have a parent-teacher organization, consider establishing one—online. Virtual schooling provides unprecedented opportunities for students. The success stories profiled in these chapters are invaluable; it is up to the institution to develop a strategy to disseminate

these stories. In an effort to continue growth, serve new populations, and develop new opportunities for revenue, virtual schools have adopted entrepreneurial perspectives to identify opportunities for expansion that align with their missions. It would seem that these opportunities are not unique to specific states. For example, credit remuneration, teacher professional development, dropout prevention, and adult education are cited by multiple states as pilot programs with considerable promise. A prime example of entrepreneurial thinking is provided by Florida Virtual School, which has developed a franchise model to meet the unique needs of school districts that have a desire for a centralized online learning experience for their students. As technology continues to evolve, virtual schools must evolve too. The affordances offered by flexible, self-pacing, and adaptive curriculum are relatively unknown. By adopting a proactive approach to research and development, engaging in collaboration with research institutions, and supporting an internal culture of research and inquiry, virtual schools can continue to provide innovative opportunities for students, teachers, and administrators.

80% Trends	20% Trends
Virtual schools communicate with policymakers and educational leaders in support of their missions. They focus on strengthening their core purposes.	Virtual schools cultivate active parent groups, community outreach programs, and research initiatives to advance their missions. They develop new audiences and programs.

5. Prepare for detailed external examination.

The economic downturn created critical budgetary shortfalls in nearly every U.S. state. Without a clear data-driven message that speaks to the value that virtual schools provide for state and local governments, virtual schools did and will continue to experience budget contractions. Virtual schools have discovered that stakeholders—including teachers, unions, and local school districts—can view virtual schools as competition. The 2007 Florida TaxWatch assessment of the Florida Virtual School can serve as a prime example of a comprehensive external examination by an unbiased evaluator (Florida TaxWatch, 2007). This report lent a considerable amount of credibility to Florida Virtual School within the state of Florida and nationally. Those virtual schools that can effectively educate stakeholders about the value and cost savings that their specific institution provides will be most successful as they continue to navigate the current and future budgetary crises.

80% Trends	20% Trends
Virtual schools conduct internal (and perhaps infrequent external) evaluations of courses and programs.	Virtual schools frequently enlist external evaluators to report on course and program quality as a supplement to continuous internal examination.

Best Practices

1. Focus your attention on pedagogy.

Years of educational research have produced countless data that document the importance of good pedagogy (Ferdig, 2006). Depending on the pedagogical perspective, this includes an understanding of different learning styles, providing timely feedback, encouraging communication, providing alternative opportunities for the creation of artifacts, and the ability to gain both remedial and advanced knowledge acquisition based on the needs of the learner. Virtual schools found success when their focus was on pedagogical principles first. Technology—referenced broadly here as online education or specifically as the tools virtual schools used within their online delivery—can support that pedagogy. However, simply putting courses online does not ensure that good pedagogy will happen. Successful virtual schools were those that used technology to address the needs of diverse learners.

2. Be innovative with technology.

Pedagogy is critically important to the learning and teaching equation. However, successful virtual schools and their teachers were willing to experiment with cutting-edge tools to attain pedagogical goals. Many of these tools, e.g., gaming and mobile phones, were already highly used by the students in these courses. As such, introducing them was a natural for students. There were three key features identified by the field experiences of virtual schools. First, virtual school content developers and students often had knowledge of the new tools; virtual school teachers may not have. Developing professional development for teachers on innovative tools was an important but often overlooked step. Second, there are times when virtual school teachers are more forward-thinking in their approaches. Developing a system by which teachers could also push the envelope led to more advanced types of courses. Finally, continually working with schools is a necessary component of innovation. In some cases, for instance, local districts or schools ban *Second Life* on their computers. Offering a course with tools that are not allowed in the system will obviously decrease the benefits of said courses.

80% Trends	20% Trends
Virtual schools emphasize innovative technology to expand student access to courses that are not universally available in the schools.	Virtual schools combine innovative technology with specialized pedagogy and curriculum to increase access to courses and new approaches to learning.

3. Prepare for data collection and use.

Many virtual schools do not collect or analyze data; most that did focused only on surface-level student and/or teacher data. Deeper data dives into the coursework, the schools providing students, the students, the teachers, and the parents provided schools with a way of understanding in-time practice and related decision making to increase learning outcomes. Successful virtual schools used outside tools,

their own internal systems, or external evaluators to determine both positive and negative practices and/or outcomes that could be changed or reinforced.

Successful schools also found that collecting and analyzing data at the end of the school year did improve practice. However, the extent to which virtual schools could implement data systems that were reviewed more frequently would translate into earlier and more frequent learning gains. Finally, virtual schools that took these gains and translated them into internal and/or external reports could increase awareness of their work, awareness of the need for professional development, and even support from external constituents.

It should be noted that simply suggesting that virtual schools collect and analyze data is easier said than done. There is a level of expertise related to *what data* virtual schools collect and *how they analyze it*. Many virtual schools have now hired researchers and evaluators to assist in understanding more about their practices. The Virtual School Clearinghouse (*http://www.vsclearinghouse.com*) was also set up to help virtual schools begin this process. Regardless of the route, virtual schools will need to begin/continue to rigorously examine their own work.

80% Trends	20% Trends
Virtual schools collect and periodically analyze the data that are available in student information and course management systems.	Virtual schools customize their data systems to collect and combine data for continual performance monitoring.

4. Communicate with multiple stakeholders.

One of the most often mentioned best practices of virtual schools was communication. Communication here referred to interactions at five different levels. First, and most important, was communication between the student and teacher through multiple means. Phone calls, e-mails, instant messages, texts, and video chats were all means by which teachers could provide prompt feedback and do immediate assessments. The extent to which those exchanges were recorded also acted as a way to communicate the second level—with parents. Online education inherently provides both opportunities and needs for caregiver involvement. Many virtual schools capitalize on this opportunity and create ways for parents and caregivers to become involved in a student's education. Online education has provided a way for the entire community to care for the student.

Some virtual schools recognize the importance of the third level of communication—having a mentor or facilitator at the student's face-to-face school. However, many often rely on the mentor to support the student without providing data to them or collecting data about how they are supporting their learners. Finding ways to provide accountability to and from the mentor has provided positive learning outcomes.

A fourth, often ignored level of communication is between the teacher and the virtual school. Virtual schools will often provide professional development for the teacher. However, successful schools are ones that provide constant data and open portals for communication. Data for teachers might include end-of-course student surveys

or comparisons with anonymous data from other teachers hosting the same course. Open portals for communication might include suggestions to content developers on new innovations or on modules that worked/failed to work in his/her context.

Finally, virtual schools correctly need to spend a lot of time interacting with students, mentors, and teachers. However, given the current economic situation and its impact on funding, external scrutiny from educators, parents, and legislators, and an internal desire to grow, it is critical that virtual schools spend time educating the public and informing policy. This has been done successfully through press releases, white papers, and policy reports from internal team members or from external evaluators. Getting the word out about the good work—and even the work that needs to be fixed—will help external constituents learn their own truths about K–12 online education.

80% Trends	20% Trends
Virtual schools value and practice communication with multiple stakeholder groups served by the school.	Virtual schools enact communication policies that include multiple channels of interaction with various groups internal and external to the school.

5. Prepare students and teachers.

The current generation of K–12 students often walks around with smartphones, MP3 players, and the latest, cutting-edge gadgets. They spend time on social networking sites and get much of their information from online sources. As such, many assume they know how to learn online. Knowing could be further from the truth. Students need help understanding online courses. For some students, this support is technology-based. In other words, how do I move around in this learning or content management system? Other students struggle with new pedagogical strategies. They may have never participated in an online education forum. Finally, other students need cultural support. They may have never left their small, rural town and are now communicating with students across the globe. Successful virtual schools have found ways to orient these students through introductory classes and remedial options in existing classes.

If communication was the most referenced best practice, then professional development for teachers was not far behind. The major reason for this need is that most pre-service programs do not spend time—or enough time—helping future teachers become aware of virtual schools or the successful practices within online education. As such, teachers often come to K–12 virtual schools lacking the knowledge necessary to succeed.

Simply providing professional development will not ensure success. Best practices for professional development were those that engaged teachers "just in time," as well as continuously. In other words, they provided professional development throughout the year, but provided teachers with access to content that was both important to the virtual school and important to them (self-selection). A second idea that some virtual schools used was to have the teacher be an online student prior

to teaching an online class. A final idea was to structure the teaching experience. As such, teachers would become mentees prior to teaching in their own online class.

80% Trends	20% Trends
Virtual schools provide preparation programs for students and teachers to ensure their readiness for online learning and teaching.	Virtual schools provide initial and ongoing development and support programs that can be differentiated for the needs of students and teachers.

6. Document existing practices.

Communication with internal and external audiences was a key best practice. A way to succeed in that communication is to document existing practices. For instance, some virtual schools faced an identity crisis early in their experience from outside constituents who had differing views of their role. Documenting and returning to a strong mission statement let internal staff and the external community clearly understand the role of the school. Another exemplary practice was the production and distribution of handbooks for teachers, students, parents, and mentors. Finally, documentation became prevalent as virtual schools discussed the need for rubrics and standards for success. The ability to document how a school was evaluating its courses, teachers, and students led to higher evaluations of the school and its courses as being rigorous and innovative.

It should also be noted that many virtual schools are able to use multiple data points to identify their exemplary instructors. Many of these exemplary instructors, in turn, are able to identify key best practices that lead to success. However, without finding a way to document these outcomes, other teachers in the school cannot learn from these instructors.

7. Use school facilitators and/or mentors.

Most schools are aware of both the research and the existing data regarding the importance of mentors and/or facilitators at the face-to-face school. These mentors often provide motivation, as well as content and/or technology support. However, many schools do not do a good enough job of sharing this information with the face-to-face schools that enroll students. Successful virtual schools often show data to face-to-face schools about differences in student outcomes when partnership through mentoring is involved.

80% Trends	20% Trends
Virtual schools develop and improve operating practices. They communicate these practices to parents and schools.	Virtual schools formalize and improve operating policies. They develop and share these practices in partnership with parents and schools. They often have formal requirements or training for their mentors and school facilitators.

8. Implement course review policies and procedures.

Successful virtual schools saw their courses as evolving. Both content and technology change; the ability to capitalize on these changes informed instruction and often led to higher course outcomes and increased student satisfaction. Review processes used by virtual schools included state and national standards for content and for technology. Internal reviews often included conversations between content teams, graphic artists, technologists, and instructional designers.

The point is that if virtual schools purchased courses, they needed a review process to understand what worked for their situation, audience, and teachers. That process helped them own the content. If they created their own content, they needed to find ways to ensure that they were providing both remedial and advanced support for their students. These external and internal review procedures helped promote rigor and quality in online instruction.

80% Trends	20% Trends
Virtual schools use regular course review and refresh cycles.	Virtual schools review and refresh their courses according to established quality standards with the involvement of teams of experts and specialists.

9. Provide support for everyone.

Virtual schools often cited the need to provide support for students in multiple ways. This support can be through orientation programs, 24/7 technology assistance, direct and immediate instructor feedback, and the offering of a mentor or facilitator. These are all important; however, there are other constituents that need help. Teachers often receive professional development support. Some innovative schools are also working to support their teachers by providing an assistant instructor to help with grading and monitoring student feedback/dialogue. Others are providing support through awards and financial considerations for teachers that consistently perform well.

Due to the increased potential role of parents, virtual schools are also providing support for the parents/caregivers who work directly with the students. This type of support comes in the form of interacting with parents and training them on how to stay connected with their students' schedules, assignments, and grades.

Finally, virtual schools are becoming more aware of the support that mentors and facilitators need. The ability to provide tools for facilitators to use to monitor and support their students directly impacts student outcomes.

80% Trends	20% Trends
Virtual schools provide constant and various student and teacher supports.	Virtual schools enhance core support systems with teacher incentives, and parent and school support.

10. Support research.

Some virtual schools already support research on their practice. Some have even hired Ph.D. researchers to explore, evaluate, and improve their existing practices. Others, however, are nervous about an outside examination of their work. Virtual schools shared that they grew when they took time to understand what worked and what did not work about their practice.

As evidenced by the chapters in this book, there are as many questions as there are answers about K–12 online education. Virtual schools have the opportunity to partner with researchers on internal evaluations and state- and federally-funded projects to further the knowledge base on best practices. Such an effort would produce metrics, rubrics, and policies that could positively impact teaching and learning. Research would also impact the design and delivery of online K–12 content, particularly for multiple environments (e.g., online vs. blended) and audiences (e.g., the ability to serve diverse students).

80% Trends	20% Trends
Virtual schools conduct internal program research to inform decisions.	Virtual schools enlist external researchers for guidance.

Future Plans

Each of the virtual schools listed in this book has unique plans for their future. Some of these are related to their individual context; others are goals that cut across the schools. For instance, many schools are looking forward to the continued use of innovative technologies to improve teaching and learning opportunities.

The virtual schools profiled are overwhelmingly optimistic about what the future holds for them; many have ambitious plans for increased enrollment and increased course offerings. Themes related to increased enrollment, course offerings, and technology innovation were pervasive throughout discussions of the coming years in each chapter.

Many virtual schools see their future involving adult education, whether as providers of adult high school diplomas, facilitating job retraining programs, or providing opportunities for community education. The learning infrastructure that virtual schools have established is an invaluable asset for educating all individuals within a state, regardless of age. The challenge for virtual schools will be to expand their service offerings in a manner that does not detract from their core goals and the responsibility of serving the needs of K–12 students in their respective states. Virtual schools may wish to look toward the corporate world to investigate instances in which companies and organizations have created 'spin-offs' to address specific markets or niches.

Several virtual schools commented on the uncertainties and rigidity associated with state funding for their programs; for example, North Carolina Virtual Public School envisions

a future as an LEA or virtual charter. Also present is the current financial crisis, which has created considerable uncertainty regardless of geography. In the current era of uncertainty, and for the foreseeable future, institutions that are able to explain their successes in a reliable and valid manner will have a specific advantage over those that cannot. Institutions that choose to ignore issues of accountability because they are not mandated by state or federal legislatures may find themselves at a specific disadvantage if and when their effectiveness is questioned. Virtual schools should adopt a proactive approach to data collection and management in order to facilitate a culture of systemic assessment and evaluation that is pervasive throughout virtual schooling (Black, Ferdig, and DiPietro, 2008).

Conclusion

At the beginning of this chapter, we looked at the 10,000-foot perspective and looked more specifically at our 80/20 principle—the outcomes and lessons we have learned from the virtual schools that are both consistent and unique across all institutions that shared their stories. Although we found a number of outcomes and lessons consistent across the virtual schools, their uniqueness provides equally valuable opportunities to grow virtual education. In reality, issues and resources vary in each state; therefore, they will continue to introduce and manage approaches to virtual education to address their environments and needs.

Virtual schools have already demonstrated the potential for expanding and enhancing the resources available to serve at-risk groups (juvenile delinquents, at-home ill, home schooled, displaced, and summer school) inside and outside the state. In addition, they are currently serving students attending schools that do not offer courses that would allow their students to meet the requirements to attend top universities or to complete desired post-graduation work. Virtual schools provide an opportunity to address issues of equity in a cost-effective manner for states.

Both history and the current economic climate create a sense of urgency for policymakers to implement enabling policy for education to meet the 21st century educational needs of its citizens. This policy would position administrators to design, develop, and implement an organizational infrastructure and resources to serve students in ways to increase their opportunities of success—face-to-face, blended, and online. A role for colleges and universities is to collaborate with K–12 to address and develop teacher and administrator degrees/certifications to qualify participants in utilizing virtual learning within the educational process/system. Research institutions and the technology industry are poised to develop products, such as digital content, and address issues of meaningful use of technologies and skills needed to support the student in multiple learning environments.

Virtual schools do not create competing choices of educational delivery, i.e., face-to-face versus virtual, but learning environments that are essential components to address the variety of issues facing education and the diverse population of learners. Continued research and development in this area would improve teaching and learning outcomes in face-to-face, virtual, and blended learning environments. The stories presented here demonstrate the important efforts made thus far.

Links

Example of research white paper for policymakers:
http://www.pff.org/issues-pubs/pops/pop10.3unepimpact.pdf

The Virtual School Clearinghouse: *http://www.vsclearinghouse.com*

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Chapter 1

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