Moving Toward Mastery:
Growing, Developing and Sustaining Educators for Competency-Based Education

WRITTEN BY:
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*i*NAC☀L

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About *Competency*Works

*Competency*Works is a collaborative initiative dedicated to advancing personalized, competency-based education in K-12 and higher education. iNACOL is the lead organization with project management facilitated by Metis Net. We are deeply grateful for the leadership and support of our advisory board and the partners who helped to launch *Competency*Works: American Youth Policy Forum, Jobs for the Future and the National Governors Association. Their vision and creative partnership have been instrumental in the development of *Competency*Works. Most of all, we thank the tremendous educators across the nation who are transforming state policy and district operations, as well as schools that are willing to open their doors and share their insights.

About iNACOL

The mission of iNACOL is to drive the transformation of education systems and accelerate the advancement of breakthrough policies and practices to ensure high-quality learning for all.

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INTRODUCTION

Education is human-centered and human-driven. Its purpose is to support and shape young people as they grow, and to move our nation closer to our social ideals of equity and opportunity. At its core, education is not a set of policies or technical structures. It is the young people, educators, families and leaders who comprise our communities. Any conversation about improvement and innovation in education must, therefore, focus on people: what we are asking them to believe, what we are asking them to do and how we will support them.

This is a paper about people. Specifically, this is a paper about engaging and enabling educators to play new roles and take new leadership in the paradigm shift between traditional and competency-based education: a system of learning designed to ensure that all learners are prepared with the knowledge, skills and dispositions to be successful lifelong learners.

This paper re-envisions professional practice, learning and development for competency-based education. It describes a teaching profession that is equity-oriented, learning-centered and lifelong, and details strategies that can help realize this paradigm shift. Throughout, the paper builds on exemplars of success across the nation and explores how communities can work together to coordinate and sustain complex systems change.

The paradigm shift to competency-based education will not be solely technical. Technical changes are complex, but can be navigated with existing knowledge and know-how. The shift to competency-based education will be adaptive. It will require shifts in beliefs and values. It cannot be undertaken with existing knowledge alone, and so it will require learning at all levels, from the classroom to the boardroom. And it cannot be managed by leaders alone. It will require the people most closely engaged in learning and teaching - young people, educators, families and communities - to lead the learning and lead the change.[1]

This paper begins with a reflection on adaptive change, exploring the questions, "what is the purpose of competency-based education?" and "what traditional beliefs and values does competency-based education challenge? What core assumptions about the teaching profession must we confront and shift if we want to transform it?" After engaging with these questions, the paper explores specific technical changes needed to actually shift professional culture and practice at scale. The paper seeks to answer the questions, "what systems, structures and policies do we need to put in place to support a paradigm shift in teaching practice?" and, "how can educators, young people and communities lead this work?"

BACKGROUND

Competency-based education is gaining momentum and visibility across the nation as more and more states, districts and schools turn to competency-based practices to address systemic inequities. Competency-based districts and schools may differ based on local vision and context, but all confront problematic practices ingrained in traditional education systems. They seek to develop inclusive classrooms and schools, set common high expectations for all learners, implement systems to meet learners where they are with timely and differentiated supports, develop learners' agency, and facilitate personalized and authentic learning.

Educators have played and continue to play a vital role in the design, development and growth of competency-based education systems. They have guided the development of new instructional practices, managed change processes and partnered with communities to facilitate collaborative learning. Where competency-based education is most successful it has been driven by innovative teams of educators; its progress and growth has relied on the leadership and hard work of these pioneers. However, this reliance is not sustainable. Growing and continually improving competency-based education across the nation will require increasing the number of educators who are competency-based practitioners and improving instructional quality at scale. To address the dual challenges of shifting educational practice and improving instructional quality, leaders will need to continue to sustain the efforts of leading educators. Leaders will also need to engage communities around the nation to take part in the movement, inspire new educators to take on the challenge of shifting to competency-based practices and build the systems that spread and sustain these efforts.

Years into the competency-based education movement, the field knows a good deal about what it takes for educators to be successful in competency-based systems. Successful competency-based systems and support organizations have developed frameworks describing critical educator knowledge, skills and dispositions. And, there are many examples of districts and schools investing in personalized systems of educator development and support. And yet as a field, public education continues to face numerous challenges that make it hard to develop, support and sustain the professional workforce needed to grow and sustain high-quality, competency-based education. The field of public education remains *largely* reliant on traditional means of preparing, developing, deploying and supporting educators. While there are pockets of success, there are few examples of systems that have normalized new ways of working to fundamentally change the ethos and practice of teaching.

To begin, American public education has always struggled to scale any meaningful improvements in learning and teaching. Richard Elmore offers one explanation: "The names of [innovations] change, and the intellectual traditions associated with particular versions of the practices ebb and flow. But, the fundamental problem remains: Attempts to change the stable patterns of the core of schooling ...are usually unsuccessful on anything more than a small scale. [...] The closer an innovation gets to the core of schooling, the less likely it is that it will influence teaching and learning on a large scale."[2] Competency-based learning is an innovation that sits directly at the core of schooling; learning and teaching in competency-based systems are dramatically different from learning and teaching in traditional contexts. In many districts and schools, even those that are on the path to becoming competency-based, these teaching practices are still countercultural. Educators engaging in competency-based practice are often isolated and may find themselves inventing active workarounds to systemic and cultural barriers: misaligned preparation programs, professional development supports, evaluation systems, schedules, assessment practices and curriculum. Asking educators to make the transition to competency-based practices *in spite* of outdated systems and policies creates obstacles to quality and sustainability for even the most change-ready educators and leaders. And, it discourages many others from even trying.

Scaling competency-based practices will require changing expectations for teaching practice, changing how educators work and collaborate, and removing systemic and cultural barriers. This will take coordinated, systemic changes at many levels: state policy, higher education program design and credentialing, district systems and practices and others. To make these changes, leaders must engage and develop diverse constituencies who will support, enact and sustain vital changes. There are many exciting examples across the nation of leaders who have built political will and capacity to take on systemic changes. The challenge, then, is twofold: help other states and districts learn from these examples, and help pioneering leaders maintain the political will and capacity to sustain competency-based education at scale.

Those who envision a more equitable education system grounded in competency-based practice are called upon to develop systemic and sustainable approaches. Shifting professional practice must be core to these efforts. While shifting professional practice entails changes in policy and practice at high levels, it must also take root in the communities and classrooms where educators, learners and families interact every day. It must engage educators as learners and as agents of change rather than passive recipients of new policy or practice and seek to move educators' hearts as much as their minds.[3] This paper offers a vision and pathway for a paradigm shift led with and by educators, students and communities.

AUDIENCES

This paper is about supporting educators and engaging change processes that position educators as leaders. But it is not written for educators alone. Shifting professional practice through a participatory process will require significant shifts at multiple levels: individual, team, school, community, district and state. In this paper, we seek to help multiple audiences address the question, "what can I do to support this change, and where does that fit into a larger picture of systems change?" Specifically, we address the following audiences:

State and district leaders create vital systems, policies and context that shape professional practice. This paper can help them initiate or continue systems-level work to support new professional systems, including changes to policy, collective bargaining, educator credentialing and others. While it is true that policy alone is insufficient for deep and lasting changes in the teaching profession, it is also true that policy can either enable or block change processes. This paper will highlight specific policies that can support a paradigm shift in the teaching profession aligned to the purpose and needs of competency-based systems.

Principals and educators work collaboratively to lead school-level and network-level change. In competency-based education schools, educators and leaders share responsibilities for change and innovation and educators take on vital leadership roles. This paper can help school leadership teams with change efforts that are new or underway.

Higher education, non-traditional pathway programs, technical service providers and consultants are engaged in the work of preparing, credentialing and supporting educators. They can use this paper to identify new opportunities for educator preparation, credentialing and ongoing support. The paper will highlight opportunities for higher education, states, districts and schools to pilot and scale collaborative change efforts.

Community leaders, stakeholders and activists create and sustain the momentum needed for the transition to competency-based education. Communities set the vision and contribute expertise to change processes at all levels. Often, community voice creates the call to action for major change and is what sustains change processes through political turmoil. This paper will highlight opportunities for communities to play leadership roles in the shift to competency-based education.

GUIDING PRINCIPLES

This paper is grounded in the following principles:

Changing professional learning and development requires a **systemic approach.** Professional learning and development are an interconnected system of parts: learning experiences, culture, systems and policies. Furthermore, professional practice is contextualized within organizational culture and structures;[4] professional practice, learning and support must take place in the context of shared vision, distributed leadership, innovation and improvement practice and community engagement. School leadership is particularly vital to effective teaching. While this paper does not focus on school or district leadership, it recognizes and highlights how leadership can help or hinder efforts to support and sustain effective teaching practice in competency-based environments.

Professional learning and development are **locally contextualized** and will therefore vary in design and implementation. While there are common design elements and key components that unify all quality systems, this paper is not prescriptive. States and districts will consider local conditions when designing new professional systems. Schools will benefit from implementation and change management approaches to respond to their own communities and contexts. Rather than striving for system-wide homogeneity, this paper seeks to identify commonalities in intention and practice, and to learn from different local adaptations to leverage this variety for improvement at the systemic level.

It is critical that there be **alignment** between adult learning and student learning. Educators cannot be expected to do for students what they have not experienced for themselves. Thus, educators should be supported and developed in ways that reflect expectations for student support and development. Both educator and student learning should be informed by common design principles:

- Clear and shared definitions of **student success** (academic knowledge and skills, transferable skills and lifelong learning skills) and **educator competencies** (the specific sets of educator knowledge, skills and dispositions that are prioritized within a system);
- Grounding in **equity:** strategies to support success for all students and confront historical and institutional barriers;
- Grounding in the **learning sciences**: what we know about cognition, metacognition, development and engagement.

Continuous improvement is vital, both as a part of the transition to competency-based education and also as a part of competency-based education itself. Because competency-based classrooms, schools and systems are driven by responsiveness to student learning and development, these environments will always be changing. The professional systems described in this paper will continually evolve as they are brought to life, ideally through robust learning and improvement practices.

OVERVIEW: HOW IS THIS PAPER ORGANIZED?

This paper is organized into five sections.

I. What is competency-based education?

II. What does teaching look like in competency-based education?

III. Envisioning the paradigm shift; reimagining teaching for competency-based education

- Teaching as an equity-oriented profession
- Teaching as a learning-centered profession
- Teaching as a lifelong profession

IV. Mapping the paradigm shift; levers for systems change

- Strategies for state, district, school and higher education leaders
- Enacting pressure and support: roles for educators and communities

V. Conclusion and appendices

- Glossary
- Resources

Case studies, resources and reflection questions are woven throughout the paper. All are intended to help readers translate the big ideas presented in this paper into practice in their schools, districts, organizations and states.

- Case studies highlight good work being done around the nation. They represent exciting examples of the paper's big ideas in practice. All are works in progress and are not intended to be read as ideal states, as it is valuable to learn from leaders' reflection on the implementation process, continuous improvement and ongoing evolution.

- Resources are tools, research and case examples related to the paper's big ideas and recommendations. Links to access resources can be found in the "Resources" Appendix to this paper.

- Reflection questions help readers reflect on current practice in their context, identify opportunities for action and engage in critical discourse about student learning, educator practice, culture and equity.

WHAT IS COMPETENCY-BASED EDUCATION?

Definition of Competency-Based Education

In 2011, innovators and leaders came together to develop a working definition of high-quality competency-based education. This competency-based education definition includes five defining elements:

1. Students advance upon demonstrated mastery.
2. Competencies include explicit, measurable, transferable learning objectives that empower students.
3. Assessment is meaningful and a positive learning experience for students.
4. Students receive timely, differentiated support based on their individual learning needs.
5. Learning outcomes emphasize competencies that include application and creation of knowledge, along with the development of important skills and dispositions.

Please see the Glossary Appendix for clarification of key terms related to competency-based education.

Distinguishing Features of Competency-Based Education

Competency-based practice has evolved since the field first defined it in 2011. While the original definition remains relevant, leaders in the field have deepened it by identifying ten features that distinguish competency-based education from traditional education. These features can be organized into three categories: culture, pedagogy and structure. Key features are also described in greater detail in the report *Levers and Logic Models: A Framework to Guide the Design of High-Quality Competency-Based Education Systems*.

Collectively, the features below represent the field's vision for quality in competency-based systems. While a few districts and schools are on their way to becoming fully competency-based, most are still exploring, designing and working toward quality at scale. Even the most developed competency-based districts and schools will share that they are still learning, refining and improving.

Culture

1. Commitment to ensuring all learners master learning expectations. Becoming competency-based requires a north star. Districts and schools need a clear vision of preparing all learners for lifelong learning success, and it is critical that their vision reflects local context, conditions and values. Leaders at the district and school levels work with their communities to develop and continually revisit a shared vision, proactively and meaningfully engaging stakeholders who have been historically marginalized and dedicating ongoing time and energy to ensure authentic support. Educators and learners internalize the shared vision and use it as they continuously reflect on the purpose and value of their daily actions.

Competency-based districts and schools commit to dismantling systemic barriers to equity and helping all learners succeed. They emphasize every learner's potential to learn at high levels regardless of background, identity and prior learning experience. This is not mere lip service; competency-based systems develop policies, structures and practices to meet individual learners where they are, personalizing supports and monitoring progress and pace. Furthermore, they emphasize collective accountability and continuous improvement, rather than punitive accountability measures.

2. Empowering, inclusive cultures of learning. Competency-based districts and schools focus on culture with the same intentionality that they develop curriculum or create assessments. They put in place systems and structures that emphasize growth, inclusion and cultural fluency. They put equity at the heart of all that they do. They value empowered learners and adults and actively develop their agency. Drawing from the learning sciences, they maximize safety and belonging, intrinsic motivation and growth orientation.

Pedagogy

3. Emphasis on academic knowledge, transferable skills and lifelong learning. Competency-based systems look beyond narrow academic narrow definitions of student success that are limited to academic proficiency. They emphasize applying academic knowledge and skills to authentic contexts and creating new knowledge to help learners become adept problem-solvers and independent learners.

› Academic knowledge refers not only to mathematical and language proficiency, but also to deep understanding — what some call deep conceptual understanding in keystone concepts[5] — that allow academic content to be transferred and applied.

› Transferable skills enable people to apply learning toward problem solving, complex reasoning and meaningful goals. These competencies include critical thinking, creativity, collaboration and others. They are often referred to as transferable skills, higher order skills or 21st century skills.[6]

› Lifelong learning skills prepare learners to be independent, self-directed learners throughout their lives. These include foundational building blocks of wellness such as relational attachment and healthy self-regulation; mindsets and mental models such as growth orientation, self-efficacy and self-worth; and skills related to perseverance and autonomy.[7] Intrapersonal skills, interpersonal skills, learner agency and non-cognitive skills are often included in definitions of lifelong learning.

4. Relevant and authentic learning. Pedagogy and learning design are grounded in the learning sciences, emphasizing relational support, intrinsic motivation and engagement. They are also grounded in equity strategies, including culturally responsive practice and Universal Design for Learning.[8] Pedagogy and learning design embrace the idea that learning can happen anytime, anywhere and in many ways. Learning is not constrained to the classroom; learners extend their learning online, in community, in places of work, in institutions of higher education, in the home and beyond. Throughout, depth of learning is emphasized; learners have opportunities to extend and apply new knowledge toward meaningful goals.

5. Timely and differentiated instruction and support. Educators in competency-based schools meet learners where they are and use formative assessment to adjust instruction and customize instructional strategies for learners. Schools are careful to distinguish between meeting learners where they are and tracking; meeting students where they are does *not* mean putting students on paths with different degrees of challenge, rigor and expectation. Meeting students where they are means maintaining high expectations for all learners and developing personalized growth trajectories for each learner to articulate how they will advance toward mastery. Educators use formative assessment to support learning and monitor progress and pace. Timely and differentiated supports ensure that learners have the resources they need to build foundational knowledge and skills, address learning gaps and make adequate progress toward learning goals.

6. Assessment for and as learning. Assessment is meaningful when it is embedded in the cycle of learning, and integrated into authentic and relevant learning experiences. Formative assessment provides timely feedback that helps learners practice, revise and master learning objectives. Formative assessment also helps educators adjust instruction and guides their professional learning. Assessment is not punitive; rather, it empowers and engages learners by equipping them with transparent, timely, information about their progress. Assessment systems in competency-based districts and schools also emphasize deeper learning. Districts and schools build the capacity for performance-based assessments to ensure learners know how to transfer knowledge and build the higher order skills of analysis, synthesis and evaluation. They also adopt validation processes to ensure assessments are high quality, protected from bias and consistent with expectations.

Structure

7. Consistent expectations for mastery. Competency-based systems seek to reduce variability in what is to be learned, what it means to demonstrate mastery and how student work is evaluated. This is vital to ensuring equity; when educators are the final arbiters of student learning they may contribute — intentionally or unintentionally — to perpetuating inequitable outcomes for learners. Therefore, competency-based districts and schools create common understanding of what it means to demonstrate mastery of knowledge and skills and develop educator capacity to design for and evaluate mastery. Educators, leaders and students regularly calibrate this understanding, using moderation processes to ensure educators share expectations and assess evidence of learning consistently.

8. Explicit, transparent expectations and progress. A transparent and common continuum of learning, horizontally and vertically aligned to standards and/or competencies that reflect success outcomes, establishes shared expectations for what learners will know and be able to do at every performance level. Transparency motivates and empowers learners, who can guide their own learning when learning targets and expectations of mastery are clear. Transparency is also vital to equity, because it ensures that all parties—learners, educators, leaders, partners and families—have a common, reality-based awareness of where learners are in their learning and what can be done to support them.

9. Timely and transparent communication. Competency-based districts and schools define and share a transparent continuum of learning. This continuum shows all stakeholders the learning milestones that lead up to mastering graduation expectations. This practice helps all stakeholders, including students, families and partners, to be clear on what they need to learn, what proficiency looks like and the ways they can demonstrate learning. This learning continuum then becomes the backbone for the system of grading. Unlike traditional systems in which grading practices are highly subjective, grading policies in competency-based systems separate academics from behaviors and lifelong learning skills to ensure transparency and objectivity. Learners receive effective feedback and guidance on both. Students engage in additional practice and revision until they can demonstrate proficiency.

10. Advancement based on mastery along personalized pathways. Competency-based systems recognize that learners may need more time to learn concepts and skills deeply. If they have gaps in their mastery, scaffolding may be required to attain all the prerequisite knowledge and skills. More instructional support and time are provided if needed and learners advance when they are ready. Depending on the domains and learning targets, learners may be able to pursue personalized pathways forward rather than linear progressions. In competency-based systems, learners are truly prepared for future learning because their progress and credit are based on demonstration of knowledge and skill, rather than traditional proxies for learning, such as attendance or amount of time in class.

WHAT DOES TEACHING LOOK LIKE IN COMPETENCY-BASED EDUCATION?

Competency-based education is a paradigm shift. It entails changes to fundamental policies, practices and structures, and it challenges many of the core beliefs and assumptions on which the traditional system of education has rested for decades. Inevitably this paradigm shift requires a parallel shift for educators: fundamental changes in teaching conditions and experiences and in the core assumptions that underlie teaching practice.

Concretely, the shift to competency-based education asks educators to make significant changes in their practice: what they do and how they do it. Becoming a practitioner in a competency-based environment entails behavioral change on a daily, hourly, minute-to-minute basis as educators try, test and refine new ways of working and ultimately integrate new approaches into the core of their practice. Competency-based education also entails changes to the role of educator itself. As districts and schools become competency-based, the responsibilities associated with being an educator change, increasing both in variety and complexity.

Too often, change efforts in education are top-down. They dictate what educators must know and be able to do and how they must work. Top down approaches view educators as frontline actors charged with making policy and practice reforms work in practice. But, they rarely integrate educator voice or expertise in their design and they place disproportionate responsibility on educators to make new reforms work while underestimating, undervaluing and under-resourcing the supports needed to help educators rise to new demands.

This paper tries to depart from the legacy of top-down approaches. Authors have engaged educator voice, ensuring that the vision of teaching put forward is a fair reflection of their experience and aspiration. Furthermore, the paper places emphasis not on telling educators what to do, but rather on helping systems leaders understand how educators are navigating change, what they can do to support them, and the systems changes that will be necessary to expand and sustain their efforts.

Evolving Educator Roles

Competency-based environments increase the variety of roles that educators play.[9] This can seem overwhelming: increasing variety often means increasing role complexity. However, it can also be empowering. Educators in competency-based districts and schools have increased opportunities for specialization and leadership. Increased complexity entails the intrinsic rewards of increased mastery, autonomy, leadership and enjoyment. Leaders can manage increased role complexity by distributing teaching roles across teams of educators, partners and staff. Collectively, all roles are needed across a school to support student learning, but they are not all required of any one individual. If we expect every individual educator to take on all roles and responsibilities, we risk make teaching an unsustainable profession. The most successful districts and schools distribute roles and responsibilities across staff, developing leadership and instructional teams that work collaboratively to support student learning and deepen peer to peer learning.

What roles do educators play in competency-based systems?

STUDENT LEARNING - Supporting student learning and development.

1. Instructional Designer[10, 11]

1.1 Work with learners and colleagues to design and manage personalized learning pathways aligned to competencies and learning progressions.

1.2 Work with learners and colleagues to design learning experiences (units, projects and tasks) that promote culturally relevant learning, higher order thinking, enduring understanding and opportunities for application and extension.

1.3 Design, integrate and implement differentiated and developmentally appropriate supports for all learners including language learners and learners with special needs.[12]

1.4 Curate content that supports learning pathways and experiences and promotes voice and choice for learners.

2. Learner Guide

2.1 Engage learner voice and choice to engage learners' intrinsic motivation.

2.2 Utilize a variety of instructional tools, strategies, and mediums to meet each learner's needs.

2.3 Utilize culturally responsive strategies to ensure inclusive learning environments and supports or all learners, including language learners and learners with special needs.

2.4 Promote collaboration and peer learning.[13]

2.5 Support personal, social emotional and metacognitive development and guide learners toward independent mastery.[14]

3. Learner Coach

3.1 Build strong, supportive relationships with learners and families.

3.2 Support positive identity development, including positive gender, racial and cultural identity.

3.3 Create inclusive learning communities that help all learners feel accepted.[15]

3.4 Help learners develop their interests and aspirations and discover their potential.

4. Resource Manager[16]

4.1 Manage the use of instructional resources to maximize learning, including time, technology, space and materials.

4.2 Allocate resources through an equity lens to interrupt systemic inequities and ensure all learners have what they need to thrive.

4.3 Integrate community assets, including families and partners, into learning as core resources.

5. Evidence-Based Practitioner

5.1 Utilize multiple reliable forms of assessment as and for learning, including formative, performance-based and summative assessments.[17]

5.2 Utilize multiple forms of learner data to monitor each learner's progress and pace along personalized pathways, to adjust instruction and to provide timely and differentiated supports.

5.3 Provide frequent feedback to support reflection, revision and extension of learning.

5.4 Collect multiple ongoing data points to monitor learning and pace and adjust instruction.[18]

6. Advocate

6.1 Identify and intervene to interrupt structural and systemic inequities in districts and schools.

6.2 Utilize strategies that identify and address social and emotional needs, including trauma-related needs, to improve physical, emotional and psychological health.

6.3 Help learners and families access resources to address social, emotional and psychological needs.

6.4 Give voice to learners' and families' concerns and defend their rights in spaces where traditionally marginalized and underrepresented communities cannot represent themselves.

7. Community Connector

7.1 Facilitate relevant, interest-based and connected learning in the real world through applied and authentic learning experiences.[19]

7.2 Communicate frequently with all learning stakeholders—learners, educators, families, learning partners and others—to support learning.

7.3 Utilize culturally fluent communications to build authentic cross-cultural relationships.

7.4 Work with learners, educators, families and higher education partners to promote college and career readiness, especially for historically underrepresented families and communities.[20]

INNOVATION AND IMPROVEMENT - Leading innovation and improvement efforts and supporting the growth and development of peers.

1. Lifelong Learner

1.1 Value and demonstrate commitment to ongoing learning and improvement through a personal mastery lens, including a growth mindset and openness to learning through challenges.

1.2 Identify personally meaningful professional learning goals that support and serve team-wide and school-wide improvement priorities.

1.3 Demonstrate initiative and persistence along personalized professional learning pathways.

2. Innovator[21]

2.2 Explore, develop and deepen new classroom and school-wide strategies.

2.3 Utilize reliable research methods and improvement structures to test the efficacy of new practices.

2.4 Connect individual learning to school-wide innovation and improvement.

2.5 Document and share learnings to support innovation dissemination.

3. Facilitator[22]

3.1 Support the design and development of personalized professional development.[23]

3.2 Support the facilitation of personalized professional learning.

3.3 Provide peer coaching utilizing a formative assessment, observation, and feedback model. Model effective practice for peers to support their learning and development.

4. Collaborator

4.1 Work alongside colleagues and peers to support data-driven, inquiry-based professional learning communities.

4.2 Collaborate with colleagues and students to co-design learning pathways, experiences and assessments.

4.3 Collaborate with families and community partners as key contributors to student learning.

5. Change Leader[24]

5.1 Lead implementation of innovation and change management processes. Work with distributed leadership team to create and continually refine strategy.

5.2 Encourage and support school community and colleagues to navigate change processes.

5.3 Effectively communicate change priorities and processes to learners, families and community partners.

5.4 Take on specialized roles to support the expansion of curricular and extracurricular offerings in alignment with school vision (i.e. maker learning, STEM learning, community-connected learning coordinators, arts integration).

Evolving Educator Competencies

As educator roles evolve, so will educator competencies. Educators need new knowledge, skills and dispositions to perform more complex work. Much thought has already been contributed to this topic; the field has produced multiple frameworks describing the competencies that educators need to be successful in competency-based schools. This paper synthesizes existing frameworks, research and input from educators and leaders.

As with educator roles, evolving competencies are increasingly complex. Could any one educator be expected to demonstrate *all* of the competencies listed? The short answer is no. Competencies are distributed. No one individual can be expected to demonstrate *all* competencies *at* proficiency *all* the time. Districts and schools can think holistically about the competencies needed across their teams to support student learning, and use this awareness to create balanced teams. This strategy supports distributed leadership, contributes to collaboration and peer-to-peer learning, and increases sustainability.

Additionally, readers may wonder what it means to develop competencies in a mastery-oriented profession. Are educators expected to "arrive" at mastery at some point in their career? Again, the short answer is no. Educators continuously develop and deepen competencies through practice over the course of their careers. Developmental approaches can include personalized goal setting and planning, opportunities for iterative practice, clear delineation between developmental observation/feedback cycles and evaluative processes, and evaluation processes that value and award personal growth.

Finally, educators and leaders clearly state that there is no single "right" set of competencies. Competencies can and must be customized to local conditions. What is important is not that all educator competency frameworks look alike, but rather that all systems define educator competencies that align to their vision and their expectations for learning and teaching, as well as to their definitions of learner competencies and outcomes. Systems should engage in a participatory process to define (and then continually reevaluate) the "right" educator competencies for their context and community. These will entail identifying foundational competencies that will be prioritized for all educators and calibrating definitions of what mastery in those competencies looks like in practice.

What are the competencies that educators need to be successful in competency-based environments?

KNOWLEDGE - An educator's body of knowledge that is used to inform instruction.

1. Knowledge of self

1.1 Identities, values and beliefs;

1.2 Mental models;

1.3 Learning preferences;

1.4 Interests, strengths and growth areas; and

1.5 Personal biases and strategies to address bias.

2. Knowledge of learners

2.1 Learner development;

2.2 Brain development and developmental stages;

2.3 Developmental differences;

2.4 Strategies for supporting students with learning differences;

2.5 Strategies for supporting language learners;

2.6 Trauma-informed strategies; and

2.7 Learner background, interests, preferences and strengths.

3. Knowledge of learning

3.1 Learning sciences
  - Cognitive;
  - Metacognitive; and
  - Social-Emotional.

4. Knowledge of content

4.1 Competencies and the standards upon which they are based;

4.2 Common, moderated understanding of what demonstrating mastery looks like;

4.3 Awareness of common student misconceptions and challenges in content;

4.4 Central concepts and structures within content area(s); and content progressions across multiple bands.

5. Knowledge of pedagogy

5.1 Learning theory and pedagogical practice aligned to district and school expectations;

5.2 Personalization;

5.3 Strategies for supporting:
  - Higher order thinking;
  - Agency;
  - Self-regulation;
  - Metacognition;
  - Social and emotional development; and
  - Positive academic and personal mindsets.

KNOWLEDGE - An educator's body of knowledge that is used to inform instruction.

5. Design for mastery

5.1 Design and/or utilize transparent, standards-aligned learning progressions;

5.2 Design and/or customize multiple learning pathways with opportunities for differentiation based on learner need;

5.3 Moderate to common understanding of proficiency;

5.4 Design learning units, projects and experiences; and

5.5 Design experiences that are suited to different learning preferences and needs.

6. Universal design and cultural competency

6.1 Create learning environments and experiences that are inclusive for neurodiversity;

6.2 Create learning environments and experiences that support language learners; and

6.3 Facilitate culturally relevant instruction that honors learner backgrounds;

7. Assessment literacy

7.1 Design and/or use formative assessment as and for learning;

7.2 Design and/or use reliable performance based and summative assessments;

7.3 Utilize multiple measures (aligned to expanded definition of student success) to support continuous improvement and to adjust instruction; and

7.4 Promote learner voice and choice in selecting forms of assessment and demonstration.

8. Learner engagement and ownership

8.1 Build authentic and meaningful relationships with learners;

8.2 Design and facilitate learning experiences based on learner interest;

8.3 Engage learner voice and choice;

8.4 Support positive social and emotional development;

8.5 Develop self-regulation and self-management skills; and

8.6 Guide learners to independent mastery.

9. Flexible resource allocation

9.1 Utilize technology as a learning tool;

9.2 Utilize space as a learning tool;

9.3 Utilize time as a learning tool; and

9.4 Utilize community partners as learning tools.

KNOWLEDGE - An educator's body of knowledge that is used to inform instruction.

10. Personalization

10.1 Support multiple learning pathways based on learner needs, interests and strengths;

10.2 Provide appropriate level of challenge for each learner, leading to stretch;

10.3 Utilize differentiation and scaffolding to support each learner's progress;

10.4 Provide timely and differentiated supports; and

10.5 Provide rich feedback to support learner reflection, revision and extension.

11. Relevance and connection

11.1 Promote authentic collaboration, peer-to-peer learning and cooperation;

11.2 Facilitate real world, connected learning;

11.3 Support anywhere, anytime learning; and

11.4 Manage online and blended learning.

INTRAPERSONAL - An educator's internal mindsets, mental models and orientations that inform their actions and behaviors.

1. Commitment to educational equity

1.1 Seek to understand and value learner identity and culture as assets for learning;

1.2 Publicly model belief in every learner's ability to learn at high levels;

1.3 Practice learner-centered decision-making;

1.4 Identify, name and address historical and institutional barriers to equity; and

1.5 Self-reflect to investigate personal power, privilege and bias.

2. Growth mindset

2.1 Publicly model commitment to learning through challenge;

2.2 Publicly model belief that performance and intelligence grow through effort; and

2.3 Persist through challenges.

3. Learning and improvement

3.1 Prioritize lifelong professional learning;

3.2 Utilize established improvement practices;

3.3 Reflect on personal growth and development; and

3.4 Seek feedback from learners, peers and leaders to support growth and development.

4. Innovation and change orientation

4.1 Communicate and model commitment to new visions for learning and teaching;

4.2 Explore, try and test new practices;

4.3 Utilize established innovation practices to evaluate new ideas; and

4.4 Take smart risks to innovate.

5. Critical thinking

5.1 Practice effective reasoning and analysis;

5.2 Practice systems thinking;

5.3 Practice creative thinking and problem-solving; and

5.4 Demonstrate sound decision-making.

6. Leadership

6.1 Seek appropriate leadership roles and opportunities to take responsibility for student learning; and

6.2 Take necessary action to ensure learner growth, support peers and contribute to school improvement.

INTERPERSONAL - An educator's social and relational skills that shape learning environments and inform collaborative practice.

1. Relationships

1.1 Build culturally fluent relationships with learners;

1.2 Build culturally fluent relationships with the adults in learners' lives; and

1.3 Build culturally fluent relationships with peers and colleagues.

2. Learning environments

2.1 Design inclusive learning environments;

2.2 Design learning environments that promote peer-to-peer learning

2.3 Create a positive, collaborative culture of learning.

3. Partnerships

3.1 Identify and facilitate partnerships that promote connected and real-world learning;

3.2 Connect learners with supportive adults in the community to support learning and development; and

3.3 Collaborate with families as partners in learning.

4. Collaboration and teaming

4.1 Partner with peers in key roles, including instructional planning, teaching, reflection and inquiry;

4.2 Seek and provide feedback and support to peers;

4.3 Collaboration: contribute to peers' professional learning and practice through shared learning;

4.4 Distribute leadership roles on a team; and

4.5 Contribute to team learning and growth.

Resources

Case Examples

> Educator Competencies for Personalized, Learner-Centered Teaching

> D51 Teaching and Learning Framework

> Building 21 Teacher Competencies

> Big Picture Learning: Met Advisor Competencies

> iNACOL Blended Learning Teacher Competency Framework

ENVISIONING THE PARADIGM SHIFT: IMPROVING AND ALIGNING PROFESSIONAL PRACTICE

Educators are taking on increasingly complex and varied roles as states, districts and schools make the shift to competency-based education. These shifts require educators to develop new knowledge, skills and dispositions and to integrate new ways of working into the core of their practice. Growing competency-based education to greater scale means asking more and more educators to make these changes while improving their instructional practice. Essentially, the field will tackle two simultaneous challenges: help more educators shift their practice and improve the quality of teaching at scale.

Competency-based education has gotten this far due in large part to the energetic efforts of innovative educators who are willing to shift their practice even when the systems, policies and conditions around them make it inconvenient and even risky to do so. But this is not sustainable. To move beyond pockets of success toward a paradigm shift - to improve teaching and learning at scale - the field cannot rely on the heroism of individual actors. The field must shift the context, culture and practice of teaching itself. Navigating a paradigm shift in professional practice will require commitments from systems leaders. First, to elevate educator and community leadership so they can effect change, not merely be affected by it. Second, to invest deeply in educator capacity to ensure they have the competency to take on the new roles and responsibilities we ask of them. And finally, to align systems and policies with competency-based practice so that we do not send mixed messages, asking educators to do one thing while implicitly valuing and rewarding the opposite.

Introduction: Teaching as an Equity-Oriented, Learning-Centered, Lifelong Profession

A teaching profession aligned to the purpose and outcomes of competency-based education would be equity-oriented, learning-centered and lifelong.

- An equity-oriented profession is designed to ensure all students thrive and experience the broader purpose of education: deep, relevant knowledge and the capacity for lifelong learning. Student learning and professional practice are multicultural and inclusive. Educators, learners and communities form deep relationships and share power.

- A learning-centered profession supports educators in the continuous pursuit of personal mastery. Educators experience authentic learning that improves personal practice and the collective quality of teaching. Educators collaborate for the purposes of ongoing innovation and continuous improvement.

- In a lifelong profession, educators are rigorously and purposefully prepared to enter teaching. Educators share leadership and collaborate, and they have opportunities for meaningful advancement throughout the course of their careers.

This vision was developed in partnership with educators, leaders and activists who are deeply engaged in the work of competency-based learning and teaching. It is simultaneously aspirational and reality-based; aspirational because it does not exist anywhere in totality yet, and reality-based because it is grounded in research about human learning and development, and because elements of the vision can be found in in practice in districts and schools across the country.

Figure 1. Vision for the Teaching Profession
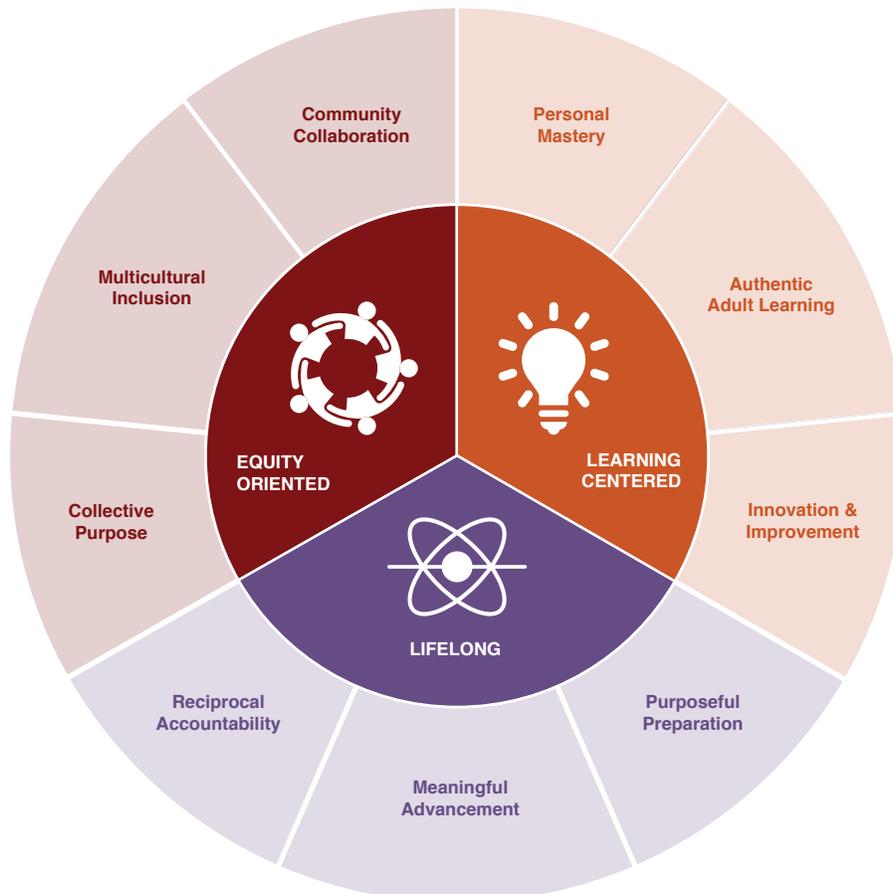
Strategies: Moving Toward a New Paradigm of Teaching Practice

This section describes our vision for teaching in depth, addressing the following questions: "what would an equity-oriented, learning-centered lifelong profession look like in practice?" and "what strategies can bring these attributes to life at scale and with quality?"

Figure 2. Strategies for Transforming Teaching
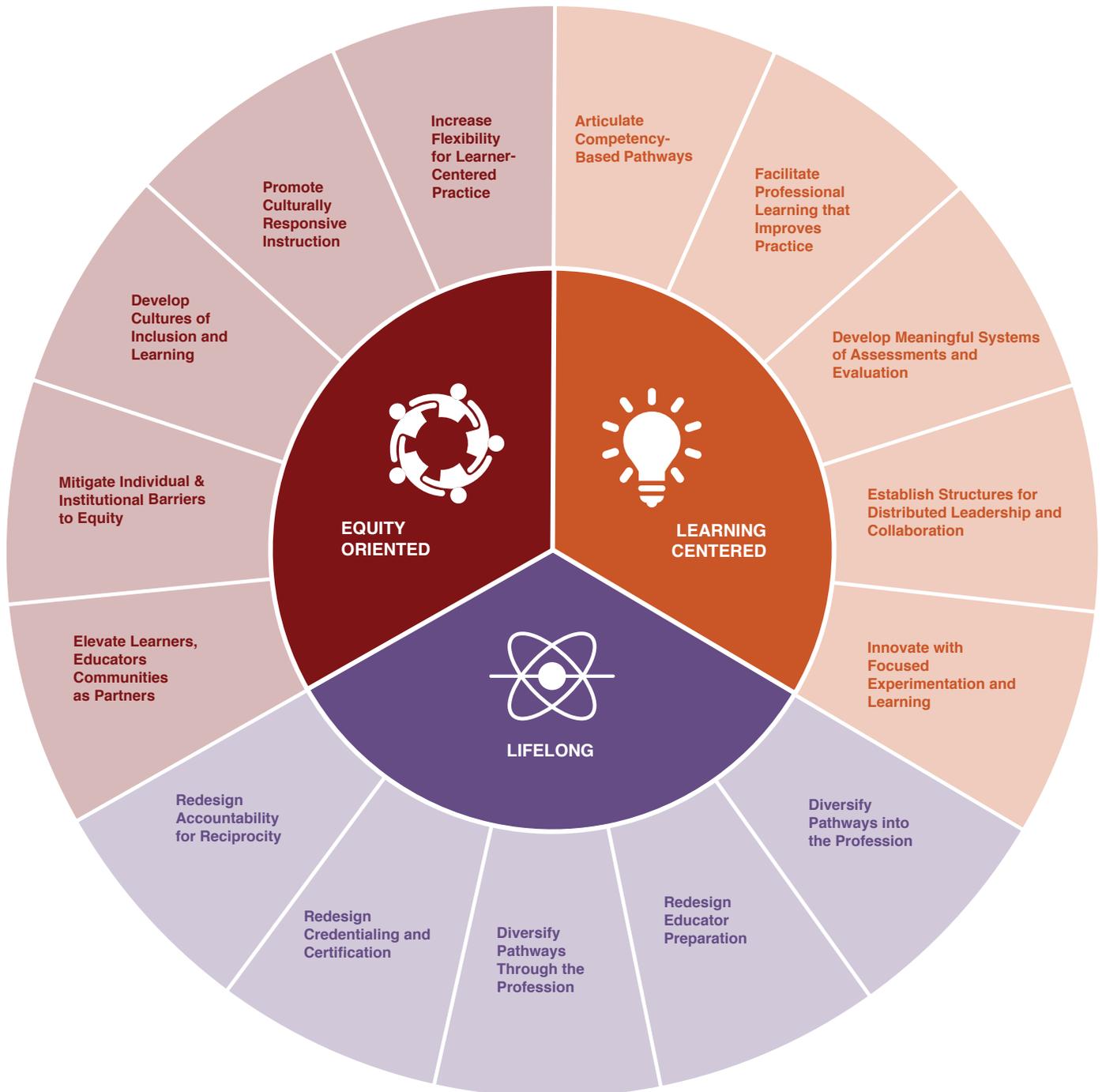
Teaching as an Equity-Focused Profession

The National Equity Project defines educational equity: "Each child receives what he or she needs to develop to his or her full academic and social potential. Working toward equity in schools involves: ensuring equally high outcomes for all participants in our educational system; removing the predictability of success or failures that currently correlates with any social or cultural factor; interrupting inequitable practices, examining biases and creating inclusive multicultural school environments for adults and children; and discovering and cultivating the unique gifts, talents and interests that every human possesses."[25]

What Is an Equity-Oriented Profession?

In an equity-focused profession, all aspects of practice are designed to ensure success for all learners. Educators create multicultural and inclusive learning environments and are members of multicultural and inclusive professional communities. They investigate and address their biases and work in partnership with the community to disrupt systemic inequity.

Everyone is a learner, students and adults. Student and adult learning are integrally and intricately related, and they are at the center of all aspects of professional practice. Educators respond to the preferences, interests and needs of each learner with individually and culturally responsive practice, just as educators' interests and needs are at the center of their learning and development. To meet learners where they are, educators are empowered with professional agency. To own their learning, learners are empowered with agency. To help design and develop new approaches to learning and teaching, communities are elevated as partners and co-creators. Schools have flexibility to personalize professional learning and specialize professional roles based on educators' interests and needs. Each of these processes of agency, empowerment and flexibility require that power and leadership be shared between leaders, educators, learners, families and community partners.

Educational equity[26] is not yet a reality. Many districts and schools using competency-based approaches to achieve more equitable outcomes have made gains, but none have fully closed gaps. Competency-based education is not a silver bullet, but it can be a powerful strategy for equity when it allows educators, leaders and communities to collaborate and provide learners with the right supports at the right time, foster learner voice and deepen learning and create systems of transparency and continuous improvement needed to work toward success for all.

What Would an Equity-Oriented Profession Look Like in Practice?

COLLECTIVE PURPOSE

Competency-based districts and schools share a common purpose: to ensure all learners are successful because of (not in spite of) their identity, background and prior learning. When teaching aligns to this purpose, it operates from belief that educators, learners, partners and families can work together to help all learners thrive. It is also grounded in the belief that thriving means more than gaining academic proficiency. Thriving means developing deep academic knowledge, the ability to apply that knowledge in meaningful ways and the skills and mindsets for lifelong learning. Thriving means developing young people's interests and passions, building their self-efficacy and pride and helping them develop the tools to create the lives they want for themselves and their communities. Engaging with the broader purpose of education means helping learners develop their passions and engage the full array of their curiosities, knowledge and identities.

An equity-focused profession engages educators to embody and advance this broader purpose. Educators share collective responsibility for student success; they continually adjust, refine and adapt their practice based on learner needs with a commitment to personal mastery ("I will continuously grow and develop.") and team learning ("Together we will improve.") They seek to inspire learners to develop and engage their true interests and to feel pride in who they are. They step up as advocates for learners and families and they intervene to disrupt systemic barriers to equity. By necessity, educators understand historical and persistent inequities in education, and can assess how individuals, institutions and systems can either contribute to or disrupt inequities.

MULTICULTURAL INCLUSION

People need physical and emotional safety to learn, and they need to feel respected and included to feel safe. Equity-focused environments actively respect and include all members: learners, educators, families and partners. Respectful relationships form the foundation for inclusive practice. Educators, learners and families know one another deeply, building relationships through cross-cultural curiosity and respect, integrity and transparent communication. The mutual understanding developed in relationships allows learning to be personal, and the trust that is built allows power to be shared.

Equity-focused educators understand that to learn best, learners need to feel respected for who they are. This does not mean setting aside a day or week to celebrate a cultural group's history. This means integrating history, identity, art, language and representation into learning environments and experiences. This means valuing diversity as an asset to learning, collaboration and creativity and demonstrating this value through daily behavior. Educators investigate their own mindsets and beliefs and seek to understand their place in systems of power and privilege so that they can effectively share power with others. They seek to understand learners' backgrounds and identities and integrate these attributes into learning environments and experiences. Educators celebrate and represent learners' social and linguistic patterns rather than reinforcing dominant ways of speaking and acting. They value attributes that are often labeled as deficits: they value language learners for being multilingual instead of labeling them "hard to teach" and they value the ways in which learners with "special needs" increase neurodiversity to create richer learning communities.

> "The decentralization of power - distributed leadership, increased student agency, personalized learning, stakeholder engagement - is based on the idea that "we are smarter than me." This is not a trite aphorism, but a sincerely held belief."
>
> – Gary Chapin, Senior Associate, Center for Collaborative Education, 2018

COMMUNITY COLLABORATION

In most education systems, the dominant culture concentrates decision-making power among a few individuals in formal positions of authority. In equity-focused systems, power and authority are shared between educators, students and communities. Educators and leaders create sustainable structures for collaboration with communities to address systemic barriers, design innovative alternatives and ultimately engage in cooperative implementation. This is vital to developing and sustaining shared goals and vision and also to the work of navigating systems change from the ground up.

Sharing power requires direct engagement with personal, institutional and historical barriers to equity. The dominant culture in most districts and schools reinforces problematic biases, power dynamics and privilege. In contrast, equity-oriented school communities facilitate courageous conversations to investigate, uncover and address barriers to equity. As a result, educators share power with learners as they guide them toward independent mastery. Leaders share power with educators as they support them on the journey to personal mastery. Districts and schools share power with families and community members who hold valuable insight and play key roles in authentic learning and who are empowered as partners in learners' education.

Decentralizing power begins with connecting learning and teaching to community. Educators tap into the cultural and social assets of the local community and communities beyond to ground learning in students' realities and to expose them to valuable social and cultural capital. Schools become porous;[27] they engage community as partners in planning, in learning, and in ongoing improvement. To enable this way of working, districts and schools use hiring practices that prioritize the mindsets and skill sets needed to build culturally fluent relationships with learners and families, and professional learning continues to develop this skill. School day and school year calendars allow time for relationship building and community partnership, allowing educators and learners to connect with families and communities.

Resources

Research

› In Pursuit of Equality: A Framework for Equity Strategies in Competency-Based Education

› Designing for Equity: Leveraging Competency-Based Education to Ensure All Students Succeed

› Quality and Equity By Design: Charting the Course for the Next Phase of Competency-Based Education

For a complete list of resources, see pages 85–90.

What Strategies Can Bring an Equity-Oriented Profession to Life?

1 - ELEVATE LEARNERS, EDUCATORS AND COMMUNITIES AS PARTNERS

Districts and schools create equity-focused culture by enacting formal processes to elevate learners, educators, and communities as partners. Collaborating with stakeholders is vital to specific improvement and problem-solving processes and also to ongoing leadership and improvement. In other words, leaders engage stakeholders as partners when embarking on new programs or initiatives and in the ongoing practices of running districts and schools. Often, this begins with engaging voices: soliciting input, perspective, and feedback from multiple stakeholders. However, partnership goes beyond engagement. Engagement is transactional; it involves the exchange of information or resources. Partnership is deeper; it involves sustained relationships, collaboration, and sharing power.

> "Community engagement can help to overcome mistrust and build the mutual respect that is needed to create a culture of learning. In most districts, there are segments of the community that have either had bad experiences in school or have historically been underserved and disrespected by school systems. Districts must create a space for people to talk about what they want for their children, have honest conversations about the current academic achievement levels and graduation rates, and share their fears."[28]
>
> - Chris Sturgis, *Engaging the Community,* 2016

Leaders can elevate multiple stakeholders as partners in several ways.

- Engage communities to set the vision for competency-based education. Listen to families' visions for their children, to educators' aspirations for learning and teaching and to employers' and community leaders' visions for future workforce and civic needs. Involve stakeholders in the processes of setting goals, identifying improvement priorities and defining strategies.

- Tailor outreach and engagement efforts to identify and include the voices that have been historically marginalized or excluded. Families and leaders who have had negative experiences with the education system may not answer an "all call" for community partners. Often, they will need to be approached, invited, and included through customized and culturally responsive efforts.

- Practice timely and transparent communication. Share messages that allow stakeholders to understand and connect with proposed changes, prioritizing culturally responsive language and utilizing accessible media. Reflect on progress along the way, sharing successes and reflecting on challenges to build trust.

- When input and feedback are needed, utilize surveys, interviews, focus groups, and technical advisory groups to engage multiple voices. Deepen input by utilizing human centered design methods such as shadowing or observing educators' and learners' day-to-day experiences. Human-centered design can reveal new insights about values, assets and needs.

- Create design teams to co-create new schools, initiatives, or strategies. Ensure teams have ample time and resources to form relationships, engage in real learning, wrestle with new ideas, challenge assumptions and iterate on proposed designs. Ensure that collaborative design teams are not merely symbolic; create formal structures and processes for reviewing, evaluating and integrating their designs.

- Integrate community organizations, community leaders and families as partners in learning. Community-based projects, work-based learning and internships, concurrent enrollment and mentorship opportunities can meaningfully integrate communities as learning resources.

- Create formal governance committees and task forces to allow educators, learners and communities to provide vital input into ongoing strategy and problem-solving.

2 - MITIGATE INDIVIDUAL AND INSTITUTIONAL BARRIERS TO EQUITY

Educational equity is actualized when educators and leaders engage in the work of interrupting inequitable practices and designing more equitable alternatives. This work spans the individual and the institutional; it requires a coordinated, systematic and deeply personal commitment to examining and eradicating the biases that contribute to differential outcomes.

ADDRESSING BELIEFS AND BIAS

Becoming an equity-focused practitioner means having the courage to challenge previously held beliefs about who learners are, what it means to be an educator and even the very purpose of education. Becoming an equity-focused system means having the courage to investigate historical and institutional practices that perpetuate opportunity and achievement gaps. It means confronting the assumptions and collective biases that are built into systems, policies and the very ways that we organize learning and schooling. Individual and institutional biases are closely related. Individual bias is usually shaped by one's experience within inequitable cultures and institutions. In turn, institutional biases are upheld by individuals whose daily behaviors give them life. Because of this reinforcing relationship, changing the dominant culture requires time, resources and support. Educators, learners and leaders engage in ongoing work to identify personal and institutional bias, understand their place in structures of power and privilege and work with communities to address barriers to equity.

Districts and schools can take proactive approaches to mitigating individual and institutional inequity. This starts with vision and leadership. Leaders at all levels speak often and speak passionately to the shared vision that all students will thrive. They show the courage to surface challenges related to personal and institutional bias and address these challenges with collaborative, solutions-oriented approaches. Leaders provide space and time for community conversations, allocate resources for robust and high-quality capacity-building culturally-responsive practice, and they utilize established protocols to help educators investigate personal and institutional biases.

This is not easy work, and many adults will demonstrate resistance: denial, avoidance, anger, or shame. Sometimes those who resist or lag can be brought into the fold with time, ongoing support and the chance to see educators who model inclusion be recognized and celebrated. Ultimately, however, committing to inclusive practice is non-negotiable. While it may not be a prerequisite, it is vital to successful professional practice and effective influence on student learning. If beliefs and biases are not addressed, real change is not possible.

BUILDING A DIVERSE AND REPRESENTATIVE TEACHING WORKFORCE

Racial diversity in the workforce benefits every business, organization and industry;[29] the same is true for education. There is ample evidence that students of color benefit from learning with educators who reflect their personal and cultural identities.

Learners who have educators with the same racial identity experience fewer disciplinary incidents.[30, 31] Educators of color form strong and trusting relationships with students of color,[32] which contribute to deeper learning. And, educators of color often serve as advocates for students and families, helping them navigate education systems.[33] While the families who attend America's public schools are increasingly non-white, the vast majority of educators remain white. This gap is an ethical issue and a practical one; we believe that learners of color deserve the opportunity to learn with and from educators of color, and we know that they will do better in school and in life when they do. Competency-based systems can deepen equity-focused practice by placing priority on hiring, supporting and retaining educators who reflect and relate to the students they teach and creating inclusive professional cultures for all educators and staff. Leaders can achieve this with a variety of strategies.

- Coordinate initiatives at the state and district level to prioritize the recruitment, hiring and placement of educators of color. Set clear and transparent goals and publicly monitor progress toward these goals.

- Form partnerships with local universities and preparation programs to build more diverse pathways. Partner with local government leaders to ensure affordable housing and living conditions for educators.

- Investigate current recruitment, selection, placement and evaluation practices for evidence of bias that would discriminate against educators of color. This is important in higher education, district and school-level practice.

DISTRIBUTING EDUCATORS WITH AN EQUITY LENS

Systems leaders can approach educator placement and distribution with an equity lens. Ample research shows that students of color and students in poverty are far more likely to be taught by newer educators, less qualified educators and poorer performing educators than wealthy white students.[34] There are potentially problematic assumptions in this research: not all new educators are bad, and educator qualification, certification and evaluation processes may have little to do with an educator's actual ability. Nonetheless the point remains: our system perpetuates opportunity and achievement gaps by disproportionately assigning poor students and students of color to educators who are newer and/or less competent. A report by the Education Trust identifies five state-level strategies for disrupting inequitable teacher assignment: offer transparency about which students get which teachers; set public and accountable goals for eradicating disparities; provide resources to help districts eradicate disparities; facilitate improvement networks to help districts and providers problem-solve; and integrate teacher equity initiatives into the larger context of state, district and school improvement.[35]

Resources

Tools

› Diversity Toolkit: A Guide to Discussing Identity, Power and Privilege

› Critical Practices for Anti-bias Education

› Courageous Conversations about Race

› Assumptions Wall

› The Ladder of Inference

› Disruptive Equity Education Project

Research

› Diversifying the Teaching Profession: How to Recruit and Retain Teachers of Color

› Strengthening and Diversifying Teacher Recruitment Pipeline: Current Efforts

› Tackling Gaps in Access to Strong Teachers; What State Leaders Can Do

› Diversifying the Teaching Profession through High-Retention Pathways

3 - DEVELOP CULTURES OF INCLUSION AND LEARNING

Cultures of inclusion and learning promote optimal learning for students and educators alike.[37] Educators need to experience belonging to cultivate it for learners, and learners need to see educators modeling behaviors that reflect a respect for diversity. Districts and schools can allocate resources and time to developing educators' capacities to build strong relationships with students and families, prioritize diversity and representation in hiring and actively promote inclusive culture among educators and staff.

FOSTERING DEEP RELATIONSHIPS

Competency-based education is rooted in deep relationships that promote inclusion and learning. Educators get to know learners' interests, prior learning experiences and future goals. They form relationships with learners' families and with important figures in learners' extended communities. Learners and families know and trust educators and leaders. Leaders take time to know their staff, understanding their interests, specializations and motivations. And educators know one another well; they invest in one another's growth and development and demonstrate the trusting behaviors that are vital for meaningful collaboration. Relationships are the foundation for personalization and collaboration.

> "Learning experiences must reflect and validate students' personal and cultural identities and experiences to build positive identity and pride. They must promote awareness of, comfort working with and affiliation with other personal and cultural backgrounds different from one's own. Likewise, professional culture must respect and validate the personal and cultural identities of teachers and staff. Equity-oriented systems will seek to hire teachers and leaders who share their students' cultural identities and life experiences, and to ensure that these educators have equitable opportunities for voice and leadership."[36]
>
> - Katherine Casey and Chris Sturgis, *Levers and Logic Models: A Framework to Guide Research and Design of High-Quality Competency-Based Education Systems, 2018*

Developing relationships does not happen by accident. Developing deep relationships requires intentionality. Leaders and educators can build structures and supports for relationship-building with the same focus and purpose as any other aspect of learning and teaching. The following structures and supports can support relationship-building at all levels.

- Identifying relationship-building as a vital competency for all educators. Prioritizing it in hiring practices to ensure that educators see it as part of their core work to know learners, families and one another.

- Allocate time for relationship building. Ensure that school year calendars include time for getting to know learners and families. Ensure that school day calendars allow time for community connection, rituals and routines and social learning. Advisory structures, homerooms, elective learning blocks, mentorship opportunities and other structures can ensure time for relationship-building as a core part of the school day and learning experience.

- Provide educators with opportunities to deepen their knowledge and skill in the area of relationship building. Offer opportunities for professional learning related to culturally responsive practice and ongoing coaching and feedback on educator-learner communication, engagement and connection.

- Integrate learner voice into educator reflection, development and evaluation. This can increase transparency and trust and ensure educators understand how learners actually perceive them.

PROMOTING INCLUSION FOR EDUCATORS

To form relationships and cultivate inclusive environments with learners, educators need to experience inclusive and relational environments themselves. School leaders play important roles in cultivating these environments. It is important that they investigate current school climate for educators, particularly for educators of color. Leaders can engage educator and community voice to get a clear picture of existing biases that contribute to inhospitable or exclusive professional culture, and then they can take steps to ensure educators of color are supported and included, that they have equal voice in school-level decision-making, and that they are supported to have pathways for advancement.

Resources

Tools

› Inclusive Classroom Climates

› Developing an Inclusive Classroom Culture

› Inclusion and Respect: GLSEN Resources for Educators

› Universal Design for Learning

› Culture in the Classroom

Case Study: Launch Network

Launch Network is a choice-based micro school program operating inside a neighborhood elementary school in Denver, Colorado. Launch's mission is to close equity and opportunity gaps by creating holistic, personalized, student-centered communities for families who want an exceptional education. Launch pursues this mission by operating a whole child, whole family, whole year educational program. Launch offers a personalized learning environment through a 6:1 student-teacher ratio and organizes learning around a holistic set of competencies: Health, Knowledge and Skills, and Real World Application.

Launch opened its doors for its year one pilot in August 2017. Lead teachers quickly realized that they were not prepared to engage students and families with a history of negative experiences and marginalization in public education. Implementation suffered as a result, so the team called in a small number of Launch parents and community leaders from the surrounding neighborhood to help them better understand the challenges and redesign aspects of the Launch model. What emerged from this collaboration was a radically different learning environment. This new approach was anchored in a few big ideas.

1. Engage community leaders as educators - Launch flipped its school-day schedule to provide up to three hours a day for students to learn with educators from neighborhood community programs. Community educators could relate to students through common racial and cultural identity, and these relationships contributed to a culture of trust and support. Sade Cooper, Executive Director of Collaborative Healing Initiative within Communities, explains, "We're able to sit down with the teachers and assess the objectives, and then complement what they do. We enhance that child's learning in the classroom. We speak life into the kids and into their families. If you show up and you're consistent they're going to recognize that and respond to that. They see that we're not quitting on them."

2. Address trauma and support positive identity development - The Launch educator team, including both academic teachers and community educators, collaborated to provide holistic supports for students in the classroom. This work involved the adoption of new tools and techniques anchored in trauma-based practice. Moreover, it meant prioritizing positive identity development in the classroom. Working together, the Launch educator team created an environment that helped students who had never seen success in school begin to see themselves as strong, capable learners through a culturally relevant lens. Executive Director Justin Darnell describes the shift: "We knew

identity development was important but we placed it second or third on the list. Now that's changed dramatically. Identity development is not a curriculum. You don't take it off the shelf. It is about a culture of relationships and relevance. Community educators use real language with kids. They talk about the neighborhood and what they're doing on the weekends. They talk about expectations. Kids engage with them like the way they engage with their parents. Parents, too, had been advocating to us to have a classroom culture more akin to what they experience at home. Now we have a template for the student experience that is aligned to what is most familiar to them."

3. Share power in the classroom - For the Launch educator team, collaborating in new ways meant stepping outside of traditionally defined roles. Mr. Darnell reflects, "I thought if you could just get the class size small enough and get the teacher close enough to the students, that would be enough. I had to admit early on that I was wrong. As a white educator I have to understand power and privilege and get out of the way when needed." Site Director Sarah Rauenhorst reflects on changes to her role in the classroom, "What's most different is that a lot of popular teaching frameworks set the central power broker in the room as the teacher. In our classroom I really try not to be the bearer of the power because I don't want to reinforce systems of privilege. A teacher running the classroom is not going to build positive identity for students or help them develop agency." Today, the Launch team engages in collaborative decision-making and shares power across the roles of academic teacher and community educator.

4. Co-create with parents - Early efforts at parent engagement were limited, and the team felt the impact of this gap: it exacerbated mistrust in the classroom and limited learning. Things began to change when the educator team engaged families as partners. As Mr. Darnell explains, this began with finding a few parents to be leaders. "We finally got parents engaged. We had parents on board to rally the troops. That's when we started seeing the shift. That's when we got parents to co-create." When parents began to show up, the team was able to engage them as partners to address some of the challenges in the program. Parents were instrumental in redesigning the school's behavior policy and school-to-home communication protocols.

5. Provide intensive supports for families - Even though there were improvements in the work with parents during the first year of the pilot, the team knew that there was more work to do. A "whole family" approach would need to go beyond engagement and co-creation. Many Launch families needed support: financial education, workforce development, access to mental health services, affordable housing and more. The team came together to design and pilot a new whole family model in which "care teams," an academic teacher and a community educator, would provide case management support for families to help them set goals, access resources and monitor progress. The team recognized that doing this would first require establishing trust. As Ms. Cooper explains, "We have to build relationships first in order to have those conversations. We have to get to know them. It's just communicating with parents in a different way. 'Hey, let's go out together. Let's celebrate our kids.' It's small things." The team will pilot this new approach in its second year.

Launch's process of becoming a more relational, inclusive, and culturally relevant learning environment took root in a process of learning. Mr. Darnell describes his own process this way, "It takes a willingness to fail and to know that you don't have all the answers. Even if you were successful somewhere else, you have to be willing to learn from failures where you are now. Patience is important. Know where you're going and that it's not going to happen overnight. Adapt and flex moment to moment and month to month. It's not all about the outcome, it's about the process."

4 - PROMOTE CULTURALLY RESPONSIVE INSTRUCTION

Culturally responsive instruction values learners' identities and backgrounds, creates environments and experiences that promote success for learners of all backgrounds, and responds to the whole child. Culturally responsive teaching is not a reductive practice; it does not mean applying specific sets of teaching methods to different learners based solely on their race, class, language, or perceived ability. As Geneva Gay posits in *Culturally Responsive Teaching: Theory, Research, and Practice* (2010), "Culturally responsive teaching can be defined as using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them." (p. 31)[39] Culturally responsive educators utilize established, research-based frameworks to tailor instruction and supports in ways that work for each and every learner.

"Educators cannot *truly* personalize instruction without carefully considering the 'whole child' – meaning current skill level, previous instruction, socioeconomic status, and race. [...] Cultural responsiveness is not just a classroom thing. It is not merely a six-hour professional development topic. It is a critical tool in a highly-effective teacher's instructional arsenal. Cultural responsiveness is about more than just race. Cultural responsiveness is about understanding how varying experiences impact students, about learning how to embrace diversity, and about fostering connections between school staff and the diverse populations they serve." [38]

- Dr. Joseph Ellison, Principal, Martha Layne Collins High School, Shelby County Public Schools, 2018

Responsive education engages learner voice and agency. As Toshalis and Nakkula (2012) note in *Motivation, Engagement, and Student Voice,* "Time and again, research has shown that the more educators give students choice, control, challenge and collaborative opportunities, the more motivation and engagement are likely to rise." (p. 27)[40] Culturally responsive educators design learning environments and opportunities that give students a stake in their learning by making it personally meaningful. Relatedly, responsive education is highly personalized and rigorous. Chris Sturgis and I write in *Levers and Logic Models: A Framework to Guide Research and Design of High-Quality Competency-Based Education Systems* (2018):

> Without falling into the trap of tracking, educators in competency-based schools begin with the concept of "meeting students where they are" and design instructional strategies for students based on their development, social emotional skills and academic foundations. They use these assessments of student learning and development to determine the supports that will be most effective in helping them learn and progress. Pedagogy and learning design for students and adults are grounded in the learning sciences and seek to embed equity strategies such as culturally responsive approaches and Universal Designs for Learning into the core of instruction." (p. 6)[41]

The big idea here is this: part of culturally responsive instruction is making sure each learner has the right level of challenge and stretch and the right supports at the right time. To avoid tracking, educators continuously evaluate learners' progress and pace to ensure they are on their way toward key learning milestones. Educators also proactively create opportunities for learners to access rigorous learning, regardless of their prior learning levels. Challenge, deep learning and intellectual engagement are not reserved for learners who are already on grade level. Thus, becoming a culturally responsive practitioner requires that educators become culturally fluent and also that they have highly developed skills in data-informed instruction and learner-centered supports.

DEVELOPING CULTURALLY RESPONSIVE EDUCATORS

For many educators if not all, becoming culturally fluent and practicing culturally responsive teaching takes time and dedicated support. Individuals do not do this work on their own, they do this work with dedicated effort and in close relationship to their students and peers. State, district and school leaders can allocate time and resources to developing educators' competencies, including work to address necessary shifts in mindsets, beliefs and bias.

- Identify culturally responsive practice as an educator competency. Prioritize this competency in hiring and other human capital decision-making.

- Design professional learning pathways and experiences that develop educators' knowledge and skill in culturally responsive practice. Develop structures for ongoing feedback, including peer observation and learner feedback. Develop communities of practice to continually improve culturally responsive teaching.

- Deepen educators' self-awareness. Support structured reflection on cultural identity, power and privilege. Deepen educators' cross-cultural awareness.

- Provide educators authentic opportunities to understand the history, art, language and other forms of cultural identity and expression that reflect their students' identities.

- Deepen educator knowledge of learner development and learner difference. Provide opportunities for professional learning grounded in the learning sciences related to learner motivation, engagement, self-regulation and voice.

- Ensure educators understand rigor through a student-centered, equity-oriented lens.

- Ensure educators have the knowledge and skill to monitor learners' progress and pace. Deepen educator knowledge of competency-based learning pathways and key learning milestones. Calibrate and tune educators' understanding of proficiency. Develop educators' data practices.

- Model culturally responsive practice. Provide opportunities for educators to see culturally responsive teaching in action. Evaluate district and school policies for alignment with expectations for culturally responsive practice, asking "Are we supporting and developing our educator with the same responsiveness that we want for students?"

- Engage communities to provide feedback about their experiences in schools, identify priorities for professional learning and facilitate learning experiences with and for educators.

COLLABORATIVE TEACHING FOR CONNECTED LEARNING

Culturally responsive competency-based learning can be deepened through collaborative approaches to teaching that enable connected learning. Collaborative teaching can enable interdisciplinary units and projects, promote personalization as educators work with different groups of learners and allow schools to integrate work-based, online and other forms of extended learning. Furthermore, collaborative approaches to teaching can help make teaching more sustainable; educators can share roles and responsibilities strategically, minimizing the load placed on any one person. Schools can take a number of approaches to collaborative, team-based teaching.

- In multi-age learning environments educators team teach learners across multiple traditional grade bands. Educators can strategically group students to meet them where they are in their learning and can increase individualized attention and support. Integrated classrooms are inclusive: they allow opportunities for younger and older learners to collaborate with older learners modeling behavior and language; for language learners to learn with and from native English speakers *and* teach their own native language; and for learners with identified disabilities to learn with and from learners who do not. Multi-age learning environments can have tremendous benefits for learners. They can improve behavior, cognitive development, language development and self-esteem.[42]

- In interdisciplinary learning environments, educators team teach across traditional subject areas. Many schools approach interdisciplinary learning by allowing educators to co-design and co-teach cross-disciplinary courses, units, or projects: a course on the history of science or a project in which students design and build the set for a Shakespeare production. Educators might approach this as one course that is co-taught or as a close integration and coordination across courses. Schools might also consider arts integration or STEM integration, deploying arts or STEM specialists to team-teach with educators across a school.

- In community-connected learning environments, educators collaborate with community members to facilitate relevant and applicable learning. This might look like service learning projects in collaboration with community leaders, community-based projects or work-based learning and apprenticeship integrated into the school day and year. Educators team with non-traditional educators, those who are often relegated to after school, summer and informal learning realms.

FLEXIBLE STAFFING FOR CULTURALLY RESPONSIVE, CONNECTED LEARNING

Enabling collaborative teaching will often require leaders at all levels to rethink practices and policies that shape educator roles, responsibilities and behaviors. At the school level, leaders can develop human capital strategies and staffing structures that enable flexible and team-based teaching. Instead of organizing educators in identical "classroom teacher" roles, they can create more strategic organization charts with roles aligned to their visions for learning and teaching. These might include lead teacher, resident teacher, learning specialist and others. Leaders can flex resources like time and space to leave room for educators in these different roles to collaborate in ways that respond to learner needs.

At the district level, leaders may find that collective bargaining agreements stymie efforts to embrace team-based teaching by prescribing educator roles and practices according to specific and inflexible subjects, hours and responsibilities. Whereas people may worry that loosening regulations on teacher roles and responsibilities might put educators at a risk for being overworked or exploited, it can actually be a means of increasing opportunities for educator advancement, leadership and satisfaction. Labor can be a partner in advancing competency-based education by working with state and district leaders. Labor can be at the table when leaders define their visions for learning and teaching, develop competency frameworks for students and educators, and eventually rethink educator roles, responsibilities and pathways.

At the state level, leaders have opportunities to define educator roles and responsibilities in alignment with their visions for learning and teaching. In 2015, the Every Student Succeeds Act (ESSA) removed the Highly Qualified Teacher (HQT) provision in a departure from the original No Child Left Behind law. This move provided states with greater leeway in defining what it means to be a qualified educator and in setting expectations for certification. Undoubtedly, states will want to pay close attention to ensuring that educators have the requisite skills, content knowledge and clinical or practical experience for their roles. States will also want to keep equity in mind in establishing protections and incentives to ensure that the most marginalized learners and communities have access to the best educators, and that that there are strategic pipelines in place for hard-to-fill subjects and positions. Still, this federal policy creates a window of opportunity for states to develop policies and expectations for teacher certification that align to an expanded definition of an educator. States can craft policy related to certification that support competency-based education by enabling flexible staffing models in which educators collaborating across content areas, including but not limited to their subject expertise, creating opportunities for work-based and community-based educators to share responsibility for student learning, allowing non-traditional educators to receive certification along alternative licensure pathways; and allowing educators to earn micro-credentials leading to additional certifications while in the classroom.

Resources

Tools

> Culturally Responsive Teaching Matters
> Culturally Responsive Instruction
> Culturally Responsive Resources
> Culturally Responsive Teaching
> Being Culturally Responsive

Case Examples

> Culturally Responsive Education at Epic Schools
> Multi Age Classrooms at West Belden Academy
> Multi Age Class at Lake Wylie Elementary
> Community Connected Learning at Harbor Freight Fellows

For a complete list of resources, see pages 85–90.

Case Study: Growth Through Connections

In 2017 Denver Public School's innovation lab, the Imaginarium, launched a pilot program to increase educators' capacity for culturally responsive instruction. Growth Through Connections (GTC) was designed in collaboration with Dr. Christopher Emdin, author of *For White Folks Who Teach in the Hood...And the Rest of Y'all Too; Reality Pedagogy and Urban Education*. Dr. Emdin's culturally responsive pedagogy is grounded in strong student–educator relationships and focused on increasing higher order thinking and instructional rigor. Learn more about Dr. Emdin's work here.

The GTC pilot launched with nine educators in four schools in February 2017. The pilot cohort convened for four whole group sessions which included a book study, group discussions and time for personal reflection. Each educator participated in two individual classroom observations and feedback sessions with a trained coach and one observation and feedback session with Dr. Emdin. The entire cohort participated in two local learning trips to local lab classrooms.

An impact evaluation conducted at the end of the four-month pilot evaluated educators' growth in six areas: holding high expectations for students, using culturally relevant and higher order thinking language, modeling higher order thinking, using time to form relationships and deepen learning, using the physical environment of the classroom to promote cultural responsiveness and higher order thinking and promoting positive student-educator and peer-to-peer interactions. Educators showed statistically significant growth in five of the six areas, and overall growth in all six.

Overall, educators found value in the training experience and identified specific changes in their instructional practices. One educator shared, "I [used to think] 'I don't have time to waste.' Now I realize time I invest in relationships pays off later. I'm giving them time to talk, share, ask questions of each other at the beginning. This makes the academic time more productive." Another shared, "I was thinking it was my job to engage each kid, and when they didn't engage, it was a power struggle. Now, I think kids have the ability to engage each other and invite each other to join in." Of all the components of the program, educators identified the lab classroom visits and follow-up reflection as the most valuable part of the learning experience. Imaginarium staff concluded that "the GTC program shows promise as a mechanism for preparing and supporting educators to understand, appreciate and build strong, healthy relationships with their students, particularly students from a wide array of racial, ethnic and cultural backgrounds."

In 2018 GTC successfully served a second cohort of educators. In 2019 the Imaginarium plans to support two more cohorts, a total of 50 educators in Denver Public Schools. Read more about the Growth Through Connections program here.

5 - INCREASE FLEXIBILITY FOR LEARNER-CENTERED PRACTICE

Traditional educational and professional paradigms are hierarchical: decision-making is concentrated among individuals with the highest levels of formal authority, and decisions are "pushed out" to practitioners for implementation. By contrast, culturally responsive, collaborative instruction is learner-centered. Being learner-centered means being flexible at many levels. Learners and families have flexibility to pursue personally meaningful learning opportunities and self-direct as they guide their own learning. Educators have flexibility to design and curate curriculum, units and projects, to utilize assessment as and for learning and to provide timely learner supports. School leaders have flexibility to distribute leadership, deploy educators strategically, and personalize professional learning. District leaders have flexibility to engage communities in vision-setting processes and to lead adaptive change processes.

Flexibility is not always identified as a strategy for equity. In fact, advocates may worry that too much flexibility will lower oversight and accountability and increase variability in rigor and quality, thereby risking harm to traditionally marginalized learners. However, this paper defines flexibility as a strategy for equity because it is vital to sharing power in a learner-centered context. Schools cannot authentically share power with families and communities if they do not have the flexibility to respond

to their values, priorities and needs. Likewise, educators cannot meet learners where they are if they do not have the flexibility to adapt instruction, supports and resources. At the same time, it is important to balance flexibility with a rigorous attention to quality and outcomes. Districts and schools should operate under clear and common understandings of what it means to work with quality: clear articulations of strong instructional practice, comprehensive frameworks and rubrics for school quality, decision-making guides and implementation supports. And, districts and schools are held accountable to holistic measures of student growth and operational quality.

Systems leaders can promote equity and accelerate the shift to competency-based education by removing barriers to flexibility. Specific policies and regulations can inhibit flexibility at many levels, including strict state policies related to accreditation, assessment and accountability; centralized district management of curriculum and assessment; misaligned and inflexible human resource policies; antiquated IT systems that cannot accommodate school and classroom-level variation, and others. State and district leaders making the transition to competency-based education can increase flexibility and promote equity by addressing restrictive policies and moving instructional decision-making closer to schools. Often, identifying restrictive policies requires engaging those they impact: superintendents, school leaders, educators, learners and families.

Resources

Research

› Portfolio Strategy

Case Examples

› City Examples

Tools

› Portfolio Strategy Toolkit

For a complete list of resources, see pages 85–90.

Reflection Questions

1. How has your community been engaged in the vision, planning and implementation of competency-based education? To what extent have student, educator, family and partner voices been elevated? Have you made efforts to include voices that have been historically marginalized?

2. Have you identified systemic barriers to equity? If so, what efforts are being made to address them? If not, what can you do to identify them? How might you engage multiple stakeholders in an equity audit?

3. What is your system's capacity for culturally responsive practice? Do you have common language and use common frameworks to define culturally responsive teaching? Do educators demonstrate instructional strategies that build positive identity and develop higher-order thinking for all students? What efforts are being made to increase this capacity at all levels: for educators, leaders and administrators?

4. Does adult culture reflect what you hope to create for learners? Do educators and leaders reflect the demographics of your community? Does professional feedback indicate that educators and leaders experience inclusion? Do educators of color have opportunity for advancement?

Teaching as a Learning-Centered Profession

What Is a Learning-Centered Profession?

In a learning-centered profession, all aspects of professional practice focus on growing and developing learners along personalized pathways. Just as systems are in place to support and develop student learners over the course of their educations, systems are in place to support and develop educators over the course of their professional careers. All aspects of professional practice align with the learning sciences and respond to the personal interests, needs and aspirations of student and adult learners.

Development is a process, not a destination. Learning spans the course of a lifetime, and professional development spans the course of an educator's career as they try, test and extend new practices that help them improve student learning and advance equity. Like learners, educators pursue learning progressions along competency-based pathways and are met where they are with timely, differentiated supports. Their personal learning is rooted in student learning and closely connected to improvement at the team, school and system levels. Competency-based approaches are supported by growth-oriented and flexible systems of support, feedback and evaluation. For students and educators alike, teaching and learning are grounded in meaningful demonstrations of learning rather than seat time.

What Would a Learning-Centered Profession Look Like?

PERSONAL MASTERY

Personal mastery[44] is a journey. When teaching is grounded in personal mastery, educators are deeply aware of their purpose as educators and approach challenges with growth orientation.[45] Educators have opportunities to pursue personally meaningful goals, and they are supported as they learn from failure, question assumptions and meet challenges with curiosity. Personal mastery may be personal, but it is not exclusively individual. The term personal mastery comes from the study of learning organizations, which connects personal mastery to organizational learning.[46] There is a close relationship between educators' pursuit of personal mastery and improvement at the team, school and district levels.

> "People with a high level of personal mastery live in a continual learning mode. They never 'arrive.' Sometimes language, such as the term 'personal mastery,' creates a misleading sense of definiteness, of black and white. But personal mastery is not something you possess. It is a process. It is a lifelong discipline. People with a high level of personal mastery are acutely aware of their ignorance, their incompetence, their growth areas. And they are deeply self-confident. Paradoxical? Only for those who do not see the 'journey is the reward.' "[43]
>
> - Peter Senge, *The Fifth Discipline: The Art & Practice of the Learning Organization,* 1990

Educators on the road to personal mastery continually explore, try, test and refine new practices and strategies. Educators identify competencies and practices they want to explore, develop and extend. As they explore, they test new practices in small ways and at a small scale. As they develop, they practice new strategies and approach practice with purpose, engaging feedback from students, coaches and peers. As they extend, they deepen their competency by applying it in new ways and in new contexts, they disseminate their learning, and they step into leadership roles to develop competencies in others. Personal mastery thus creates a virtuous cycle, where educators' individual learning and development feed their peers' and partners' learning and development. The virtuous cycle can be reflected in the continuous development of a single competency. Educators can continuously deepen knowledge and skill by repeating the explore, develop, extend cycle. It can also be reflected across a set of competencies. Educators will be working on different competencies in different times and in different ways. The cycle is virtuous because it is not only personal; as educators deepen their competency over time, their individual learning processes can be harnessed for collective improvement across teams and organizations.

AUTHENTIC ADULT LEARNING

In the traditional paradigm the ostensible purpose of professional development is increasing individual teachers' performance, as measured by student test scores. The purpose of professional learning in a learning-centered paradigm is different: professional learning aims to improve *teaching*, both individually and collectively. Improving teaching means continuously

> "Reformers typically make very heroic and unrealistic assumptions about what ordinary human beings can do, and they generalize these assumptions to a wide population of teachers. [...] Missing from this view is an explicit model of how teachers engage in intentional learning about new ways to teach. [...] Teachers are more likely to learn from direct observation of practice and trial and error in their own classrooms than they are from abstract descriptions of new teaching. Changing teaching practice even for committed teachers, takes a long time, and several cycles of trial and error. Teachers have to feel that there is some compelling reason for them to practice differently, with the best direct evidence being that students learn better. And teachers need feedback from sources they trust about whether students are actually learning what they are taught."[47]
>
> - Richard Elmore, *Getting to Scale with Good Educational Practice,* 1996

deepening individual educators' capacity for effective instructional practice. It also means creating systems for shared learning and dissemination, which allows personal growth to influence collective improvement.

Professional learning engages educators' motivation and will to integrate new strategies and approaches into their instruction, to deepen their knowledge, and ultimately to improve their day to day practice. Professional learning is attentive to the whole learner and grounded in the learning sciences. It addresses beliefs and mental models, engages intrinsic interests and provides ample opportunity for cooperative and social learning. It focuses deeply on supporting teachers as they practice, not on telling teachers about new practices or the latest district changes. Professional learning gives educators the time, structure and feedback to adopt new ways of working, and to share these practices with their peers to improve the quality of teaching across the organization and system. Professional learning is sustained, coherent and focused on common improvement priorities across teams and schools. It is also personalized; educators take ownership in designing learning experiences and pathways that reflect their preferences and needs.

INNOVATION AND IMPROVEMENT

The world is changing. We are preparing young people for careers, civic duties and global relationships of tomorrow. The world our young people will one day lead will be shaped by dynamic economic, social and technological forces. As the world changes so must the way we learn, and as the way we learn changes so must the way we teach. A learning-centered profession is therefore innovative by design and by definition: educators continuously invent, adapt and improve new practices that respond to the demands of a changing world. Educators in a learning-centered profession demonstrate commitment to innovation in their own practice *and beyond.*[49] "And beyond" is a vital distinction. Educators take on leadership roles to support peers and partners as they move toward new visions of learning and teaching. Commitment to innovation is not a solitary purpose, it is a shared one. Creating a culture of innovation entails inspiring educators to innovate. Inspiration includes a compelling "why," permission and incentives from leaders, a culture of psychological safety and trust[50] and reinforcement from peers.

> "We worked hard to develop a culture in which it was safe to innovate. [...] Our teachers' role was to embrace the uncertainty that comes with stepping out of their comfort zones, committing to working collaboratively with colleagues, and sharing our learning to benefit all."[48]
>
> - Scott Marion, Jonathon Vander Els, and Paul Leather, *Reciprocal Accountability for Transformative Change: New Hampshire's Performance Assessment of Competency Education,* 2017

Innovation can seem counter-cultural in public education. And yet, preparing young people for the world of tomorrow requires innovation. Educators, families and advocates alike fear failing students, and understandably so. While innovation requires risk taking, it does not mean being casual or reckless about student learning and wellbeing. Evidence-driven experimentation and continuous improvement lead to "smart" risks. Smart risks are different from mistakes from violating norms, from inattention or from operating without adequate support.[51] Smart risks test key hypotheses and uncover new knowledge. Even when risks do not produce intended results, when they "fail," they produce valuable learning in areas that matter for student growth and success. Educators take risks when they have anticipated the possible harm to students and found it minimal, and when they have adequate support.[52] In a learning-centered profession, core systems like evaluation, coaching and advancement support smart failure. Educators are not penalized for smart risk taking, and they are supported when their risk taking contributes to organizational learning.

6 - ARTICULATE COMPETENCY-BASED PROFESSIONAL PATHWAYS

DEVELOPING COMPETENCY FRAMEWORKS

States and districts begin the process of redesigning professional learning systems for competency-based education by clarifying the knowledge, skills and mindsets their educators will need to support student learning. Two questions initiate this work: "What do my educators need to be successful within our model? And, what does mastery of each competency look like in action?"[53] In competency-based systems, "being successful" means ensuring all learners have access to learning and supports they will need to be successful. Therefore, what educators need to be successful is closely aligned to what learners need. Definitions of educator competency can be built by creating "portraits" of successful educators that align closely to the "portraits" of successful graduates.

Systems will have different visions for student learning and different needs and will therefore identify and prioritize different competencies. What is important is that the competencies are clear, directly related to learner populations and to student success outcomes and commonly understood by stakeholders across the system. States and districts should include educators, leaders and learners in the processes of identifying and developing competency frameworks. Taking the time to have a participatory design process will result in better outcomes (competencies that are optimally aligned to educator and learner need in a competency-based system) and better implementation (greater buy-in, adoption and support).

Rollout and implementation processes should allow ample opportunity for calibration. Just as it is vital for teachers to calibrate on demonstrations of mastery for learners, it is equally vital that educators, school leaders and district administrators calibrate on what it means for educators to demonstrate mastery of competencies. Demonstrations should align to personal mastery, allowing opportunities for reflection, revision and extension of learning.

DEFINING COMPETENCY-BASED PATHWAYS

When systems have defined and calibrated educator competency frameworks, they can articulate competency-based learning progressions. In traditional systems, adult learning resembles student learning: it follows a uniform scope and sequence dictated by someone other than the learner. In competency-based systems, learning progressions enable self-directed, differentiated and asynchronous adult learning.

Learning progressions have clear structure. They include clear and measurable learning targets. They define what it means to demonstrate mastery, and they arrange or "bundle" competencies in ways that provide coherence and connection for optimal learning. But unlike traditional professional learning, learning progressions are not uniform, linear or time bound. Just as student learning moves away from one-size-fits-all approaches and linear scope and sequence, adult learning also allows for greater personalization and self-direction. Learning progressions provide the foundation for personalization; they allow educators to self-direct along personalized pathways aligned to common, transparent competencies, targets and demonstrations.

Advancement along personalized pathways entails demonstrations of learning grounded in evidence. As is true for students, educators use demonstration and assessment as and for learning. Evidence of educator learning comes from many sources: learner work and tasks, learner academic data, learner feedback, self-reflection, peer observation and others. As is discussed later in this paper, micro-credentials can provide powerful tools for educators to demonstrate mastery grounded in evidence. They base learning in demonstration rather than seat time, validate learning with opportunities for revision and reflection and allow educators to show their learning in a peer-based network.

Personalization is vital in professional learning. It is also vital that personalized professional learning fit into and support shared organizational goals. In other words, educators may select personal areas of focus for professional learning and exercise agency in deciding how to engage in learning, but their goals and learning strategies should still fit coherently within their school's and district's improvement processes. Personalizing learning for educators means balancing customization and collaboration so that the sum of all parts, the result of each educator's learning and growth, moves the entire school forward.

Case Study: Juab School District

The Juab School District is a small, rural district in central Utah serving approximately 2,500 students in five schools. When Krystle Bassett was hired two years ago, her charge was clear: overhaul traditional professional development and create a fully personalized professional learning system for Juab educators.

Krystle began work with Digital Promise to design a micro-credential program. Micro-credentials presented an opportunity to align the professional learning experience with expectations for the student learning experience. "We are asking educators to teach differently than they have before. It is hard for educators to do what they have not experienced. So, we wanted to give educators a chance to experience competency-based progressions as learners." In 2016, Juab launched a small micro-credential pilot with Digital Promise. They allowed educators to select any credential from the Digital Promise library that aligned to their own learning goals, and incentivized micro-credentials with $200 stipends. The district removed all requirements to participate in traditional "sit and get" professional development to make it easier for early adopters to engage. These two decisions - providing small incentives and removing barriers to entry, were critical in the early stages. "It was an option. There was no expectation and there was no stick, but there was a carrot," Ms. Bassett explains.

After a successful pilot, Ms. Bassett set about designing a full micro-credential program for the district as part of the district's innovation program, #JSDInnovates. The program offers educators the option to complete one of four pathways aligned to Education Elements' Core Four competencies of personalized learning: data-driven decisions, student ownership and reflection, targeted instruction, and flexible content and tools. Pathways consist of 12 stackable micro-credentials. Upon completion, educators have opportunities for increased leadership and pay.

To design pathways, district staff identified micro-credentials from the Digital Promise library that related to the core four personalized learning competencies. They decided that each pathway should include four micro-credentials that the district deemed vital for all educators: growth mindset, voice and choice, data-driven interventions and "why use technology?" Staff cross-referenced all micro-credentials with Utah professional standards to ensure they aligned with state expectations.

Within the loose guidelines presented by the district, educators are empowered to design their own pathways. They select a core four area and identify eight micro-credentials from the list of options provided, in addition to four required in all pathways. Educators meet with their building leaders to present their learning plans. All progress is based on learning, not seat time: educators engage in review processes for each micro-credential earned, and engage in a full pathway review to complete the pathway. Educators who complete a pathway

are eligible for educator leadership: five percent increase to base salary and opportunities for leadership. Though micro-credentials can be independent and asynchronous, the district has found it critically important to continue offering learning supports. Staff host in-person classes and support sessions for educators working on credentials, and Ms. Bassett provides one-on-one coaching as needed. The district adjusted school schedules to allow all educators an additional 30 minutes of personal learning time per week to work on micro-credentials. Staff have noticed an organic culture of collaboration emerging: educators seek each other out for support and guidance.

7 - FACILITATE PROFESSIONAL LEARNING THAT IMPROVES PRACTICE

School districts invest up to $18,000 to offer a single educator one year's worth of professional development, and educators will spend up to 19 hours in professional development activities in a year. But, there is little to no evidence to suggest that this investment of money and time contributes in improvement in an individual educator's impact on student learning, or in the overall improvement of teaching quality.[55] Instead, research shows that educators improve sharply in the first years of teaching as they get up to speed with basic instructional practice, but quickly plateau. For example, the difference in effectiveness between a first and fifth year teacher can be nine times greater than the difference between a fifth and twentieth year teacher.[56, 57]

> "In the United States, we tend to think that improving education is about improving teachers – recruiting better ones, firing bad ones. [Other education systems] think about improving teaching. It's a very different idea. [...] To improve education in the United States, we need to shift from thinking about how to improve *teachers* to thinking about how to improve *teaching*."[54]
>
> - Emily Hanford, *A Different Approach to Teacher Learning: Lesson Study,* 2015

Increasing educator capacity and improving teaching quality will require a significant shift in the purpose, design and practice of professional learning. This section does not describe *what* professional learning should focus on in competency-based systems, as those focus areas are determined by a system's educator competency framework. This section focuses on strategies to facilitate effective adult learning.

COHERENT AND INTEGRATED LEARNING
Professional learning is optimal when it is integrated as part of a coherent approach to school improvement and innovation. "Professional development is more effective when schools approach it not in isolation (as in the traditional one-shot workshop) but rather as a coherent part of a school reform effort. To avoid disparities between what teachers learn in professional development work and what they can actually implement in their classrooms, schools should seamlessly link curriculum, assessment, standards and professional learning opportunities."[58] Competency-based schools and districts integrate professional learning as a key part of the instructional, structural and cultural shift to competency-based education. Learning is ongoing, not one-off, and it is connected to shared improvement and innovation priorities. In a personalized learning context, this means honoring educators' personal priorities, goals and learning needs within the context of the shift to competency-based education. It means allowing room for educator voice and choice while relating educators' personalized goals to school and district-wide goals.

ALIGNMENT WITH LEARNING SCIENCES
Competency-based systems align student learning with the learning sciences, and they do the same for adults. While they will look different in different systems based on local culture, context and priorities, professional learning and development in competency-based systems should always reflect the field's most recent and robust understanding of the way people learn and grow. Learning sciences will influence adult learning in many ways. Some of the most important include focus on engagement, motivation and collaboration.

Like students, educators need to be motivated, engaged and emotionally supported to engage in optimal learning. Leaders can engage educators' intrinsic motivation[59] and ownership by engaging educators in the design of professional learning, (both their own learning and shared learning) and allowing voice and choice in learning goals, learning modalities and demonstrations of learning.[60] Not only do participatory processes guarantee better outcomes—professional learning that is better tailored to actual priorities and needs—but it also builds conditions for optimal learning.

While learning is personal, it is also social: educators learn best when learning is integrated into positive social-relational contexts.[61] Aligning professional learning with learning sciences means making teaching an increasingly collaborative practice. Collaborative practice can include peer observation and feedback, instructional rounds,[62] professional learning communities and other team-based engagements. Team learning can reveal new insights by tapping into the power of systems thinking: it allows educators to engage in creative problem solving, and it provides the bridge between personal learning and organizational improvement. In other words, team-based learning helps educators' individual improvements "add up" to improvement at the team, school and even district levels.

JOB-EMBEDDED LEARNING

In the traditional paradigm professional learning is dominated by direct instruction. Educators receive information about expectations and oncoming changes and are left to their own devices to determine what these expectations and changes mean for them. But this approach does not help shift or improve practice. Studies show that it takes 20 separate incidents of practice, often amounting to 80 or more hours, for a teacher to fully master a new skill and integrate it into day-to-day routine.[63] Competency-based districts and schools recognize that shifting practice requires practice, and so ensure that professional learning is job-embedded and directly connected to the act of teaching.[64] This often means flipping the traditional paradigm. Rather than coming together for learning and then figuring out how to adopt new practices alone, educators receive new information asynchronously and are deeply supported as they integrate new practices into the core of their teaching.

Self-directed, asynchronous learning allows educators to access, explore and connect with new knowledge. In "sit and get" professional learning, educators are asked to give up what would be instructional time or planning time to receive information about content, strategies, or updates on organizational changes. Asynchronous learning opportunities let educators to explore new possible practices, collaborate and connect virtually with peers and observe practices through video at their own pace and when it is convenient. Technology can also be used to extend feedback cycles and peer to peer learning, as described below.

After accessing new information, educators have the opportunity to engage with new practices. They try, test, reflect and adjust. They can sustain practice over time, rather than bouncing between constantly shifting goals and priorities. Making learning job-embedded means tying it to formative feedback, a powerful engine for student and adult learning in competency-based education. As with students, educators learn best when new knowledge builds on prior knowledge[65] and engages cycles of feedback.[66] For educators, formative feedback drives changes in teaching practice through continuous cycles of planning, data collection, reflection and iteration. Multiple forms of data are used in formative feedback cycles: learner work, learner feedback, learner academic data, personal reflection and peer observation. Formative feedback can utilize multiple media, including video. Educators can see modeling through videos of others in practice, and can reflect on their own practice by watching videos of themselves. Thus, educator learning and student learning are integrally connected, a collaborative culture of peer-to-peer learning is vital, and educator learning is a metacognitive process.

SELF-CONCEPTS AND MENTAL MODELS

While the shift to competency-based education is highly technical and requires the development of critical new competencies, it is also highly adaptive. It requires changes to fundamental beliefs about self, learning and teaching. People form ideas about who they are based on their own conceptions, important relationships and social influence.[67] Educators' self-concepts may be multi-faceted. They may include professional identities (ways of defining one's authority, professional efficacy, competency with particular practices), personal identities (ways of defining one's racial, cultural, gender, religious) and social identities (ways of defining how one wants to be perceived by others). Often, the shift to competency-based practice will entail real or perceived threats to one or more of these identities. Becoming a facilitator

of learning may challenge the professional identity of classroom authority, engaging in conversations about equity may challenge personal racial or cultural self-awareness, or placing more responsibility on students may challenge the social identity of "helper." This matters because threats to identity can result in anger, depression or disengagement.[68]

Mental models are the ways in which educators make meaning of, who they are, who learners are, their practice and the changes they are being asked to undertake. Mental models are "deeply ingrained assumptions, generalizations or even pictures and images that influence how we understand the world and how we take action. [...] entrenched mental models thwart changes that could come from systems thinking."[69] In education, mental models include pictures and expectations of what education looks like. For many, these pictures and expectations are grounded in their own experiences as students, in their preparation and in their prior professional experience. When any or all of these are rooted in the traditional educational paradigm, it can be very hard to fully embrace the shift to competency-based education.

Internal anxieties, doubt and assumptions can stop educators from making changes and growing. Thus, addressing self-concept and mental models is essential in complex change environments where educators are being asked to fundamentally alter their practice. Leaders can address self-concepts and mental models in many ways. They can utilize reflection protocols to help educators unpack their self-concepts and mental models and explore ways they are influenced by change. They can facilitate group dialogue, supporting educators to inquire about one another's meanings and perspectives and collaboratively build new ones. And they can challenge and reframe entrenched mental models by exposing educators to new ideas in practice on learning trips or classroom and school visits.

Resources

Research

> Science of Learning

> Learning Sciences

> Levers and Logic Models: A Framework to Guide Research and Design of High-Quality Competency-Based Systems.

> Bridging the Gap Between Standards and Achievement; The Imperative for Professional Development in Education

Case Examples

> Teaching Lab

> Kenowa Hills Lab

> PEBC Lab Classrooms

> Lesson Study

> Denver Public Schools Imaginarium Community of Practice

For a complete list of resources, see pages 85–90.

Case Study: Kettle Moraine School District

Kettle Moraine School District (KMSD) is a small district northwest of Milwaukee, Wisconsin. KMSD is several years into a district-wide transformation focused on personalized and student-centered learning. This shift is represented in several high-quality and coherent learning structures across the district: a comprehensive learning continuum in place of grade-level standards, customized learning plans, proficiency-based progression, multi-age classrooms, and school redesign to create small learning communities. Read about KMSD in this 10-part series.

Shifting professional learning has been core to KMSD's work and success. As Assistant Superintendent Theresa Ewald explains, "We started this work for kids. And then we realized it is hard to ask educators to do something with learners that we have not been willing to do with educators. A big belief of ours is in modeling. We treat educators as learners in the same ways that we want educators to treat learners."

KMSD's personalized learning approach for learners begins with a learning continuum. In parallel, the district's first step toward personalizing learning for educators was articulating a professional continuum. The continuum described a trajectory of growth from educator-centered and curriculum-based toward learner-centered and learner-based. The continuum proved to be a powerful instrument by visualizing and clarifying the shifts that would be expected of educators. Even more, it allowed educators to own their growth. KMSD leadership made an important decision when rolling out the continuum: they did not tell educators what development opportunities they would need to engage in or where their professional development processes would start. Instead, they let educators define both. Dr. Ewald explains, "Once educators [saw the continuum] and realized that they did not know what they needed to know, they came to us. They told us what they would need and how we could help them. That shift, educators coming to us instead of us coming to them, that is when things really started to take off. We shifted instruction through co-creation with educators."

Co-creation and educator leadership is core to professional learning in KMSD. Educators create their own professional learning plans. This process begins when educators define their needs and priority growth areas, then select from a series of micro-credentials provided in partnership with Digital Promise. Educators engage in learning opportunities associated with each micro-credential and present evidence of learning when they are ready for demonstration. Evidence of learning can include a variety of sources, including self-reflection, peer feedback and student work. Educators work with instructional coaches who provide critical feedback and support as educators try, test and refine new practices. Read more about the district's micro-credentialing program here and watch a short video about the micro-credentialing program here.

While micro-credentials promote highly personalized professional learning and growth, KMSD has also been intentional about integrating additional support structures that emphasize collaboration.

- Peer feedback is integrated as a critical part of the micro-credential program. Many micro-credentials call for peer feedback as evidence of learning. This has proven to deepen educator practice and contribute to a culture of collective responsibility for instructional improvement in schools: "As an educator, I am not just invested in my own growth, I am also invested in yours."

- KMSD schools have time and dedicated structures for educators to observe each other's practice and collaborate. Schools have one hour a week at a minimum dedicated to common planning time. Educators work in teams of 8 to 10 people. Groups are not set but shift and evolve based on the needs and focus areas that educators identify. Frequent uses of common planning time include student work study, problems of practice, and unit planning. All collaboration is led by educators.

- School-based collaboration efforts are supported by district-wide distributed leadership structures. KMSD values educator leadership; almost 10 percent of educators in the district are recognized as leaders of

teacher teams. Teacher team leads are charged with leading collaboration during common planning time and supporting educators' instructional improvement in a variety of other ways. Read about distributed leadership in KMSD here and watch a short video about distributed leadership here.

KMSD is undoubtedly a leader in this work. As a learning organization, however, district leadership emphasizes how much more work there is to do and expresses excitement about possibilities for future innovation and learning. Dr. Ewald reflects, "We have not arrived. We are not where I think we could be. Here are some big things I am wondering about. There is so much expertise out there. How can we capture that expertise in a way that our kids could learn from? As we talk about where we are going our aspirational vision is this: our kids' learning does not start and stop in the classroom, and the same is true for our educators. Where else can they learn, and how can they bring that back into their practice? People have learned outside of the classroom forever. How do we capture that and think about that in a systematic way? And how can we leverage all the knowledge in our community to benefit our kids?"

8 - DEVELOP MEANINGFUL SYSTEMS OF ASSESSMENTS AND EVALUATION

A competency-based system uses assessment as and for learning. Assessment is part of a student's learning cycle, and it supports more effective learning and teaching: by providing educators and learners with data to adjust instruction and supports. Becoming a learning-centered profession requires meaningful systems of assessments and evaluation for learners and educators alike.

SHIFTING LEARNER ASSESSMENT AND GRADING

Shifting learner assessment entails the use of multiple measures and balanced systems of assessments. Competency-based districts and schools seek to develop learners who are not only proficient in academic content, but who also have deep and enduring understanding of multi-disciplinary academic content, who can apply their learning in meaningful ways in the real world and who have the skills for lifelong learning. Often, educators are extending the definition of success further by extending learning into the fields of work, community and higher education where it is not just academic learning that is valued, but also social, relational, civic, physical and professional learning. However, our current systems do not measure these outcomes. For the most part, our federal and state policies base district, school and educator accountability on a narrow set of academic outcomes. This is certainly true for educators, who are often evaluated based largely on their ability to raise learner test scores in core academic areas. This misalignment between what we know matters for learners and what we measure creates a perverse incentive: educators may be asked to "support the whole child" or "develop 21st century skills," but they are implicitly encouraged to prioritize narrow academic learning. While literacy and numeracy are absolutely necessary, they are no longer sufficient to prepare learners for future education, work or citizenship. Leaders can support the shift to competency-based education and make education more equitable by utilizing a holistic definition of learner success for assessment and evaluation. Specifically, they can design learner assessments that recognize multiple measures of student success: social and emotional learning and wellbeing, college and career readiness, work-based learning and workforce readiness and others.

Balanced assessment systems to not rely solely on summative standardized assessments to figure out how much students learn. Instead, they include additional forms of assessment that are authentically connected to learning. These include: adaptive, formative, interim and performance-based assessments.[70] Balanced systems of assessments also balance time-bound assessment with demonstrations of learner growth. Traditional accountability policy is grounded in age-based and time-based assessment. In other words, we give all third-graders the same test on the same day because we want to know where these children are relative to third grade expectations. While this is valuable information - we *do* want to know where learners are relative to academic and developmental milestones. Our reliance on this one form of assessment for the purposes of accountability does not align to competency-based approaches, which ask educators to meet learners where they are, targeting supports to help them advance monitoring progress and pace. When we privilege age-based and time-based assessments, we discourage educators from meeting learners where they are. Federal and state leaders can consider approaches to accountability that track learner proficiency in relation to time-bound targets and evaluate their progress along personalized learning progressions.

Finally, balanced systems of assessments make grading practices meaningful. Traditional grading practices are not reliable measures of learning, and they are not motivating for learners. Authentic systems of grading for competency-based education meet the following criteria:[71]

- Provide honest feedback about a learner's standing;
- Ensure fairness to each student and other students;
- Model transparency;
- Be credible to learners and constituencies;
- Provide a valid assessment against key long-term learning goals;
- Provide actionable and user-friendly information about performance and how to improve; and
- Create pedagogically wise incentives for learners.

SHIFTING EDUCATOR EVALUATION

Like students, educators learn best with holistic and balanced systems of assessments. In parallel, educators are optimally engaged in their practice and have room for optimal learning when they are evaluated with multiple meaningful measures, and when they engage in assessment as and for learning.

High stakes accountability systems hold educators responsible for increasing student test scores. Though there is value in understanding how educators contribute to student outcomes, this is a limited approach: because test scores are not the sole measure of student learning, and educators do not work in isolation. State leaders can contribute to a more authentic approach to educator evaluation by utilizing multiple measures. These should align to the broader definition of student success, as well as to the broader definition of professional practice: specialization, leadership, professional learning and others.

As with students, educators learn best when they participate in assessment as and for learning. This includes providing formative feedback cycles with peers, learners and coaches as previously described, and integrating these into learning and evaluation. This also includes integrating meaningful demonstrations of learning into professional learning and development. Micro-credentials provide a promising lever for evidence-based learning and practice, as will be discussed later in this paper. And as with students, assessment practices for educators are optimal when they balance performance with growth. Together, these approaches can support educator learning, motivate improvement and allow room for educators to take greater risks with learning and innovation.

Resources

Research

> Student Performance Assessment

> Teaching Performance Assessment

> Threshold Concept: Assessment Literacy

> The Innovative Assessment Pilot

> Rethinking Teacher Evaluation for the Competency-Based Grading and Reporting Environment

Tools

> New York Performance Standards Consortium

> Assessment for Learning Project

> Assessment for Learning Project: Rethinking Assessment for Deeper Learning

> Rethinking Systems of Assessments and Building Educator Capacity

Case Examples

> Multiple Measures Data and Reporting in Vermont and California

> Setting the PACE: Teacher Assessment Practices in a Competency-Based Education System

9 - ESTABLISH STRUCTURES FOR DISTRIBUTED LEADERSHIP AND COLLABORATION

DISTRIBUTED LEADERSHIP

In the traditional paradigm, authority is hierarchical; each level of leadership sets rules, determines conditions, and makes decisions for the level of leadership below. The result is a passive compliance culture in which individual actors—learners, educators, principals and superintendents—look to their manager or their boss for solutions and answers. A competency-based system, however, cannot operate in a compliance culture. Compliance prevents individuals from taking the initiative to make decisions about learning; in a compliance culture, learners do not take ownership of their learning and educators do not take ownership of ensuring learners have the resources and support they need. This inhibits individual learning and, ultimately, inhibits organizational learning. Put differently, "Top-down approaches undermine any efforts to create an empowered staff who will take responsibility for ensuring students are learning. [And] when employees look to the next level up to answer questions and resolve issues, it undermines the culture of learning and is a lost opportunity for building problem-solving capacity within the organization."[72]

> "As the leader, I have got to let my teachers lead. The teachers have to be vested in the work, responsible for the work, and they have to have the freedom to solve problems. My job is to provide them with the space, support and the time."
>
> - Alissa Cheek, Principal, Tri County Early College, 2018

In contrast, leaders in competency-based systems distribute leadership. In schools, this means that leadership is shared amongst educators, students and the community. This shift is vital for shifting professional practice; distributing leadership helps teams manage the increasing complexity of teaching and leading in a competency-based school, promotes leadership opportunities for educators as they advance along personal professional pathways and establishes structure and culture for collaboration. School leaders can distribute leadership by delegating responsibility and decision-making related to implementation and continuous improvement efforts, recognizing and supporting good ideas, providing leadership development capacity-building and offering multiple opportunities for advancement.[73-77] School leaders can create multiple opportunities for educators to lead, including leadership teams focused on instruction and culture, educator-led communities of practice and participatory governance teams that include learner, educator and community representation.

While distributing leadership will result in greater educator participation in school committees and teams, distributed leadership is about more than just representation. It is a way of relating and working that requires trust between educators, leaders and staff.[78, 79] As Smith and colleagues (2017) note "Distributed leadership is not about dividing tasks and responsibilities among individuals. Instead, distributed leadership is concerned with the interactions among individuals (leaders and those whom they lead) to drive instructional improvement and improved student outcomes through the development of high-quality teaching and a culture where all learners can thrive."[80] Research shows that faculty trust in a school leader is directly related to school climate factors: professionalism, shared urgency and community engagement.[81] To build trust, leaders must prioritize frequent, positive and honest social interaction with teachers and demonstrate sound, reliable and transparent decision-making. Integrity (acting in accordance with values), reliability (doing what you say) and competence (having the requisite skills for the job) are core elements of trust.[82] Districts and schools can build trust by including these dimensions of trust as criteria for hiring, placing, supporting and evaluating school leaders.

COLLABORATION

When leadership is distributed, collaboration occurs at all levels. Districts and schools embed collaboration at multiple levels in the school community. This does not happen by accident. It is nurtured with structures like regular meetings, team problem solving, collaborative data practice and curriculum development, and other professional learning communities.[83]

Time can enable or inhibit innovation collaboration. To embed collaboration into core practice, schools create schedules that formalize regular time for collaborative work. They build collaboration blocks into school-day and school week schedules. Within those established blocks of time, leaders and educators work together to determine the focus of collaboration based on learner, staff and school needs. Schedules provide fluid structure that enables responsive practice.

Collaboration blocks should ensure that educators have ample time for the following: design and planning of curriculum and assessments; development of common resource and assessment item banks available for collective use; preparation for collaborative and/or interdisciplinary teaching; learner-centered, data-driven inquiry; tuning and calibration of learning progressions and definitions/demonstrations of proficiency; and peer-to-peer observation and feedback. To enable these forms of collaboration, leaders should also think strategically about flexible grouping to ensure collaboration is learner-centered, and optimally focused on the topic at hand.

- Promote collaboration among educators (and staff) who share learners. Allowing educators and staff who share learners to collaborate—to study learner interests, feedback, academic data, tasks and indicators related to social-emotional health and wellbeing—promotes deeper knowledge of learners and deepen personalized instruction and supports across the school.[84]

- Promote collaboration among educators in connected content areas. This might mean promoting collaboration among educators in common areas (i.e., deepening understanding of standards and competencies for English language arts) and/or promoting collaboration among educators in different content areas working on interdisciplinary units and projects.

- Promote collaboration that supports vertical alignment. It is vital that educators understand how competency and standard-based progressions vertically align from graduation guidelines and along critical learning milestones. Schools and districts can deepen professional practice and improve student learning by ensuring educators can work together across grade-levels and age bands to study the vertical alignment of learning progressions.

- Promote collaboration among educators who share professional learning goals and/or areas of interest. Such collaboration can facilitate personalized learning pathways, increase motivation and engagement, and support a culture of peer-to-peer learning.

- Promote collaboration through peer observation and formative feedback. Protocols like instructional rounds[85] can improve instruction and increase instructional coherence across a school. Peer observation should be grounded in rigorous formative feedback cycles to ensure it maximizes impact for instructional improvement.[86]

Professional collaboration is already a part of many traditional systems and approaches to professional practice. Most schools and districts have some form of professional learning community, grade-level meetings, or content teams on the books. What matters is not just *that* collaboration happens, but *how* it happens. Literature on learning organizations emphasize the importance of team learning. Whereas "team meetings" might focus merely on covering necessary agenda items or managing project tasks, team learning is grounded in dialogue, systems thinking, and problem solving. Dialogue is when "members of a team suspend assumptions and enter into a genuine 'thinking together.'"[87] Dialogue creates connections between individual educators' experiences and vantage points to reveal structural, systemic challenges and identify opportunities for action. Systems thinking focuses on how "the thing being studied interacts with the system set of elements that interact to produce the behavior or phenomenon."[88] And problem solving engages teams in identifying, trying and testing possible solutions to systemic challenges. Because coordinated solutions are needed for complex problems, it is vital that problem solving occur in teams. Collaboration can be complex and challenging. Schools and districts that wish to promote collaboration hire educators who demonstrate the willingness and ability to work in teams, and continually develop this competency over time.

> "There is a saying, 'If you want to go fast, go alone. If you want to go far, go together.' Having a fundamentally collaborative culture is key. Trust is profoundly important. Teachers have been under attack in our culture. So, we need to develop relationships and trust in order to do this work. And then, focus on one thing at a time."
>
> - Joy Nolan, Mastery Collaborative, New York City Department of Education, 2018

Resources

Case Examples

- › [Collective Leadership Blog](#)
- › [Teacher Collaboration Practices](#)
- › [Curriculum Camp: Distributed Leadership at Kettle Moraine](#)

Tools

- › [10 Principles to Move Your School Toward Distributed Leadership](#)
- › [4 Things to Know about Distributed Leadership](#)
- › [Teacher Collaboration in a Competency-Based Learning Environment](#)
- › [Stop, Collaborate and Listen! To Enhance Personalized Learning](#)

Case Study: Tri-County Early College

[Tri County Early College](#) (TCEC) is a public high school in rural North Carolina. The school's mission is to "create a powerful teaching and learning environment through a personalized education that prepares students for college, careers and life."

Ben Owens, a former teacher at TCEC, described how collaboration was the key ingredient behind the school's transition to competency-based education. "We were always seen as a fairly innovative school but did not always have a strong culture of collaboration. But the school's leadership recognized that to continue to push the envelope in terms of innovative teaching and learning practices, we had to provide time for routine peer-to-peer conversations in a distributed leadership framework. This culture change took time, but using the teacher-powered model, we were able to move from a patchwork approach to one that ensured that every new initiative we began, from Project-Based Learning to Competency-Based Education, was done with coherence and fidelity."

So, how does TCEC approach collaboration? Collaboration at the school is grounded in six big ideas.

1. Make time—The entire school staff meets twice a week to collaborate. This time is worked into the school schedule so that it is not an additional requirement for educators. Providing time for collaboration and integrating this time into the core of the school day proved instrumental in creating a culture of collaboration.

2. Focus—Educators identify critical focus areas for collaboration. As Principal Alissa Cheek explains, this process is authentically educator-driven, and she provides guard rails to be sure focus areas are mission critical and top priority. "It has been problem in the past, teachers taking on so much that they can't do anything well. So now we keep our mission front and center. If it doesn't directly influence the mission, we don't do it. The other thing we do is keep a shared document. Everyone enters the issues they would like the team to address, then we dot vote to decide what to focus on."

3. Use protocols—The team used protocols to provide structure for collaboration. Mr. Owens explains, "Protocols were our lifeblood. We realized if we were going to take the time to meet, we were going to do it efficiently." Problem-solving protocols contributed to a culture of problem solving in meetings and beyond. "We had an agreement: be a SAAB, not a BMW. BMW stands for 'belly ache moan and whine.' SAAB stands for 'solutions are always better.' Protocols helped us get to a culture of asking "what can I bring to the table to make this issue better?" They ensured that we always left meetings having accomplished some pretty heavy stuff."

4. Share data—Collaboration was grounded in data. Specifically, the team began using tools to better visualize and disseminate student data regarding progress and growth. Mr. Owens explains one such tool that was used early in the transition: "[MasteryConnect](#) was a game-changer for us in our evolution to a CBE approach. Rather than traditional reliance on letter or percentage grades, students, teachers and parents were able to

visually see each student's growth in a way that was easy to understand and respond to. It helped us visualize our collaboration with students and gave us a common language across the school. All of the teachers would talk in terms of mastery, scaffolding, depth of knowledge and that helped accelerate the understanding of this new approach. The tool also helped us develop and share rubrics for defining mastery for competencies and ensuring competencies were connected across content areas."

5. Peer Support—Collaboration did not just happen in weekly meetings. Educators conducted peer classroom visits using critical friend protocols. As Principal Cheek explains, this had many benefits: providing valuable feedback, building trust and showcasing strengths. "Educators go into each others' classrooms and do critical friends rounds. They learn something from each other, and they boost each other. They point out the good things they see. Educators identify what they want people to look for, so when they get feedback it does not feel like criticizing."

6. Culture—Perhaps the biggest driver of collaboration at TCEC is culture. Principal Cheek and Mr. Owens relate the culture of collaboration to a few key drivers. First, leadership is key. Mr. Owens attributes the initial shift to a collaborative culture to Ms. Cheek's promotion from teacher to principal and reflects on the importance of her ability to model collaboration and enable educator leadership. Hiring is also important. Principal Cheek explains, "I make sure I hire teachers who are dedicated to doing things differently. I look for a very different kind of educator, and I have my teachers involved in the process. You have to hire well and you have to hire with the support of your staff. Part of the culture of collaboration is also grounded in a permission to fail forward. "We were always telling our kids to fail forward but I realized my teachers were not following that. When they failed they failed. We used to say 'failure is not an option.' But if you never fail, you never learn. So we changed that. Now when we set a goal we say 'how will we know this is working?' And then we come back at two weeks, three weeks to see what is working and what is not."

At TCEC, collaboration by design is a driving philosophy, and adults' ability to collaborate is what has taken personalized learning to new levels for students. Principal Cheek explains, "The first thing we had to do was to move away from this idea of being isolated in your classroom. We wanted the school to become a reflection of the workplace. Not classrooms where you learn different material, but integration. We are getting rid of the walls between classrooms. This means that what happens at the school looks a lot like what happens in the real world, and that's by design."

10 - INNOVATE WITH FOCUSED EXPERIMENTATION AND LEARNING

Competency-based districts and schools are innovative at their core. They question assumptions about learning and teaching and challenge the status quo and continually evolve as educators seek new ways to respond to student learning needs. Educators are at the forefront of innovation, leading the way as they test and share new practices. But, it is a mistake to think about innovators as lone actors or rogue agents of change. Innovators are collaborative practitioners focused on trying, testing and growing new ideas that improve student learning and support school improvement. Innovative districts and schools have common language and shared approaches to engaging innovation as a strategy for collective learning and improvement.

INNOVATION PRACTICES

Multiple established innovation processes exist. While they differ in their approaches, they entail common elements.

- Focus innovation on solving problems that matter. Innovation for innovation's sake helps no one. Innovation should focus on problems and opportunities that have been identified as valuable to student learning and organizational improvement. Teams can use proven problem definition processes to break complex challenges into "right size" components, and target innovation to address these challenges. This approach helps innovation contribute to a shared problem of practice.

- Manage risk. Innovation entails failure and is therefore risky. It is critically important that risk taking does not detract from student learning or endanger learners. Innovation literature suggests managing risk by asking three questions. "If we fail, will we be failing while addressing the right problem? Are we ready to take this risk? And, how great are the costs if we

fail?"[89] If innovation is focused on a shared problem of practice, if the innovator is prepared and if the costs of failure are low, then risk is manageable.

- Study, iterate and capture findings. Innovation requires careful attention to outcomes. In this context, outcomes may not be academic outcomes; it will not always be reasonable to expect that an innovation will improve traditional measures like test scores. Rather, attention to impact means short-cycle learning about indicators directly related to the new practice being tested. Indicators may be related to engagement, satisfaction, learner talk, learner interaction or others. Educators testing new practices can use inquiry cycles to develop hypotheses about outcomes, capture information related to indicators and iterate practice based on learning. Capturing findings - successes and failures alike - is of critical importance to the learning cycle.

- Reflect and share learning. Networked approaches to innovation can help educators identify insights and findings. Furthermore, networked approaches help teams apply insights and findings to their original problems of practice. Finally, networked approaches help disseminate effective innovations to have greater impact on student learning.

INNOVATION CULTURE

To innovate, educators need to be empowered with autonomy to make decisions and to engage in exploratory practice. Districts and schools can enable innovation by giving teachers greater autonomy and by reducing strict "one-size-fits-all" structures (curriculum, scope and sequence, assessment, etc.) that hamper autonomy. Districts and schools can also enable innovation by identifying and removing psychological barriers to innovation, such as observation and evaluation practices that penalize growth or failure. Leaders can incentivize innovation by publicly recognizing and celebrating innovators, rewarding innovative actions and modeling of innovation. States can further incentivize innovation by ensuring districts and schools have adequate autonomy over human capital, budgetary and instructional decision-making, creating innovation zones with targeted flexibilities and resources, or creating financial incentives for innovation.

Resources

Research

› State Innovation Zones: Creating Policy Flexibility for Personalized Learning

› School District Innovation Zones

Tools

› Improvement Science Tools

› Hiring Innovative Staff

› Center for Teaching Innovation

Case Examples

› State: Kentucky Districts of Innovation

› State: Rhode Island Office of Innovation

› District: Denver Public Schools Imaginarium

› District: New York City iZone

For a complete list of resources, see pages 85–90.

Case Study: Dallas Independent School District

Dallas Independent School District (Dallas ISD) launched the Innovation in Teaching Fellowship as part of its effort to scale personalized learning. Now in its third year, the fellowship aims to build educators' capacity to innovate in their classrooms and support the spread of innovation in their schools. While the fellowship is very much focused on developing educators to lead and scale personalized learning, district staff felt it critical to do this through the lens of innovation. Specifically, they felt it important to organize the fellowship around the principles and skills of design thinking, a process to stimulate innovation combining methods from engineering, social sciences and arts. Kristen Watkins, Director of Personalized Learning for Dallas ISD, explained it this way. "Why design thinking? For us it's about building habits that will allow educators to continue to evolve even after the fellowship is over. Design thinking is a great, robust process. Even after the fellowship educators can use their design thinking skill set to continue to gain insight and prototype and test new ideas. Often teachers think they have to have it all planned out before they start, but design thinking encourages them to start small and pushes them to fail forward."

The fellowship kicks off in the summer with a Design Sprint. During this three-day workshop fellows learn the fundamentals of design thinking and select a personalized learning focus pathway, such as project-based learning or blended learning. Design thinking provides the meta-structure for the fellowship. Over the course of the year fellows continuously work through design cycles related to their personalized learning focus; they identify problems in their classrooms, identify possible solutions within the domain of personalized learning and iteratively test some number of those ideas in practice. Fellows meet in-person four times during the year. In-person sessions help deepen knowledge about personalized learning and allow fellows time to work with their peers on personal problems of practice related to their design cycles. Between sessions, fellows access online learning pathways asynchronously. By getting the majority of core personalized learning content on their own time, collaborative sessions can focus on active and collaborative learning. Fellows also receive individual coaching from the fellowship coach, and engage in school visits to observe personalized learning practice. The fellowship concludes with a showcase, where fellows share their learning over the course of the year.

Educators in the fellowship come from schools across the district and are not usually representatives of schools that are piloting personalized learning. As a result, these educators are often the first people in their buildings to experiment with personalized learning. While some might worry that this would isolate them or limit the spread of effective practices, district staff see it very differently. Again, Kristen Watkins explains. "If it can start with one educator it can grow from the ground up. The principal gets on board because they see it working in their school. Personalized learning bubbles up and starts to expand campus-wide. It has been powerful to see how personalized learning can start so small and spread in a matter of months to other classrooms. When colleagues see other folks on their campus trying these things they ask 'what are you doing? I need to be doing what you're doing.'"

The fellowship has been a success in its first two years, with 100% of alumni saying they would do the fellowship again. District staff are considering launching a year two fellowship for alumni. In the meantime, fellowship alumni offer leadership and mentorship to current fellows, running personalized learning sessions during convenings and providing other coaching supports. District staff believe that the most important part of the fellowship is the opportunity for educators to experience the types of learning they can then provide for students. "We have learned that educators and leaders cannot create something different for students if they don't experience it. This is how we try to work: we model personalization in all aspects of learning and support."

Reflection Questions

1. What do educators need to know and be able to do to create personalized, competency-based learning environments and experiences for learners? How do these competencies align to expectations for students?

2. Do educators have opportunities to personalize their learning? Do personalized professional development pathways advance personally relevant goals and support shared school or district-wide improvement goals? Do they contribute to a culture of continuous improvement and growth?

3. Does professional learning offer educators opportunities for practice with formative feedback? Is practice sustained and meaningful over time?

4. Do systems of assessments support learning for educators and students alike? Do educators know how to use student assessment to tailor instruction and improve their own practice? Do educators have opportunities to demonstrate their learning?

5. What systems are in place to foster collaboration and share leadership? Does collaboration improve professional practice? Does collaboration utilize evidence of student learning?

6. Do educators have opportunities to explore, try and test new ideas? Do you have systems in place to study innovations? How are successful innovations shared?

Teaching as a Lifelong Profession

What Is a Lifelong Profession?

A lifelong profession engages, develops and sustains educators over the course of their careers. Educators are supported and trusted as respected members of a respected profession. They are meaningfully and adequately prepared for the roles they will take on, they have opportunity to grow and specialize in their careers, and they are evaluated in ways that support improvement and promote advancement.

Making teaching a lifelong profession means reevaluating, reimagining and realigning every phase of a career in education from preparation through retirement. And, it means challenging core assumptions that have been used to structure the teaching profession in its current state. Educators do not get most of what they need to know prior to entering the profession, they continually grow and develop over the course of their careers. Educators do not become better at their craft along linear and time-based trajectories, they follow diverse pathways into and through the profession. "Educator" is not a uniform role, educators specialize and take on unique professional and leadership roles aligned to their unique interests and talents. And educator "quality" cannot be assessed by the sole means of increasing student test scores, their knowledge and skill must be evaluated holistically.

If we want to make the paradigm shift to competency-based education and improve the quality of American education at large, it is imperative that we think very differently about teaching, that we elevate teaching to new levels of professionalism and esteem by redesigning fundamental systems and structures that shape the nature of the profession.

What Would a Lifelong Profession Look Like?

PURPOSEFUL PREPARATION

In a lifelong profession, incoming educators are purposefully and rigorously prepared for the roles and responsibilities they will assume in the field. Preparation programs build capacity in the competencies required for teaching and leading, engage future teachers in learning experiences that model the learning theories and models they will be asked to lead with students and offer learning pathways that are accessible to a diverse student body.

Preparation is responsive to dynamic and evolving needs in the teaching profession. Programs are attuned to developments in learning and teaching driven by changes in the global population and economy, as well as those that are

driven by changes and developments in local school systems. They evolve and adapt to ensure their graduates have the knowledge, skills and dispositions to be qualified and relevant practitioners who can respond to the learners, families and professional expectations they will encounter in the field.

Preparation is key, but preparation programs are just the first step in an educator's ongoing development. Induction, professional learning and ongoing certification continuously improve educators' practice and support their advancement. Shifting educator preparation therefore means more than shifting what happens inside of higher education classrooms. It means shifting how we think about who we want to be educators, creating multiple culturally responsive pathways into the profession, rethinking new educator support and induction, and rethinking ongoing certification and credentialing. It also means aligning higher education policy with the vision, purpose and outcomes of competency-based education: how we fund, evaluate and authorize the institutes of higher education that are currently tasked with finding and preparing future generations of educators.

MEANINGFUL ADVANCEMENT

In the traditional paradigm, "educator" has singular and uniform definition: an educator is someone who is responsible for delivering content to a group of learners in specific age bands or in specific content areas. If an educator wants to advance they have a limited set of pathways available to them. By and large, these pathways lead to the principal's office, to the central office, or to another profession. This narrow conception of what it means to teach stunts growth, contributes to disengagement and limits collaboration.

In a lifelong profession there is no singular definition of a teacher and no singular pathway for advancement. Educators take on roles as mentors, apprentice leads, learning specialists, content specialists, project leads, college instructors, online instructors, coaches and others. They collaborate across roles to deepen student learning and meet learner needs. Multiple pathways for professional advancement are in place to enable specialization and collaboration. Just as students pursue personal learning paths that lead them to unique focus areas, experiences and post-secondary choices, educators pursue personal professional paths that reflect their unique interests and talents, advance their personal vision and goals and advance student learning. These span from preparation through induction and follow a teacher over the course of their professional career.

"Accountability must be a reciprocal process. For every increment of performance I demand from you, I have an equal responsibility to provide you with the capacity to meet that expectation. ... The imperative here is for professionals, policymakers and the public at large to recognize that performance-based accountability, if it is to do what it was intended to do — improve the quality of the educational experience for all students and increase the performance of schools — requires a strategy for investing in the knowledge and skill of educators. In order for people in schools to respond to external pressure for accountability, they have to learn to do their work differently and to rebuild the organization of schooling around a different way of doing the work. If the public and policymakers want increased attention to academic quality and performance, the quid pro quo is investing in the knowledge and skill necessary to produce it."[90]

- Richard Elmore, *Bridging the Gap Between Standards and Achievement: The Imperative for Professional Development in Education,* 2002

A lifelong profession enacts systems, structures and policies that support educators' advancement toward personal mastery. Evaluation aligns to educators' goals and provides valuable information about their growth and advancement. Evaluation encourages and incentivizes growth without penalizing failure that is part of the learning process. Certification allows opportunities for educators to gain applicable, transferable credit for knowledge and skills demonstrated along personalize pathways.

RECIPROCAL ACCOUNTABILITY

The traditional paradigm assumes that accountability will improve student outcomes and increase equity by shining light on achievement gaps, creating urgency for improvement, and holding educators and leaders to account when they

fail to serve students well. Indeed, there is truth here: for a long time public education operated with little transparency about the vast gaps in outcomes between different groups of students. Still, there are deep flaws in these assumptions. Traditional systems place primary responsibility on educators and school leaders to improve academic outcomes along statistically linear and age-based sequences year over year. But learning is not linear or age-based, and we cannot capture all that we need to know about growth through time bound assessments alone. Furthermore, educators and leaders rarely receive resources, support or education commensurate to the demands placed upon them. It is hard to justify holding educators singularly responsible for student outcomes when they have not had the chance to learn how to do what is being asked of them.[91]

Traditional accountability systems may be designed for equity, but they often impede it. They prioritize and incentivize limited knowledge and skills that do not align with what we know it takes for students to thrive. They contribute to a culture of compliance and fear rather than learning and courage when we know that learning and courage are required for equity-oriented practice. They suggest that "bad teachers" are the greatest problem in education, but do little or nothing to help improve the quality of teaching. This is not to say that accountability systems do not have value. They do, if we can learn to think about them differently. Accountability can advance equity when it is holistic, when it prioritizes educator capacity and support, when it is transparent and when it ensures each level of the education system shares responsibility for the success for every learner.

What Strategies Can Bring a Learning-Centered Profession to Life?
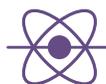
11 – DIVERSIFY PATHWAYS INTO THE PROFESSION

Over the last decade researchers have explored if, how and why educators' pathways into teaching contribute to their impact in the classroom. Studies have compared the effectiveness of educators from traditional and alternative programs, studied the impact of state selectivity in certification and accreditation policies and attempted to correlate educator attributes, including prior academic performance and work experience, with impact.[92] Studies detect some differences[93] but find few clear, compelling or consistent patterns to suggest that there is any one "best" pathway into the profession. There is as much variation between types of preparation pathways as there is across them, and there is little evidence to suggest that any single pathway or any single educator attribute is predictive of impact in the classroom.[94] Different preparation pathways bring different value and strengths to teaching,[95] which suggests the following: systems leaders should focus on developing multiple high-quality, rigorous and equitable pathways into education. Pathways should align with educational and community priorities, use an equity lens and relate coherently to subsequent stages of an educator's career: induction, development and support. Therefore, we encourage states to consider the following when defining pathways into the profession.

- Partner with district, civic, community and higher education leaders to define a coherent map of the pathways needed to address state and local needs. Mapping begins with clear projections of current and future needs: population changes; educational, economic and civic priorities; equity trends; and other factors. Pathways account for portraits of a graduate and an educator so that they emphasize critical competencies. And, pathways seek to reflect the variety of roles needed in competency-based systems: educators, concurrent enrollment educators, learning specialists, mentors, apprentice leads, community-learning leads, student support specialists and others.

- (Re)define common quality frameworks for preparation programs. In recent years changes in the accountability landscape have compelled conversations about quality, and states and universities have scrambled to show that they meet expectations for accreditation.[96] While conversations may have value, they do not necessarily help leaders and educators think deeply about the quality of programs across all pathways: if and how curriculum, pedagogy and program designs reflect best practice in educator preparation and align to competency-based approaches. As discussed in the following section, state and university leaders can play important roles in improving teaching at scale by helping to redefine standards of quality for educator preparation. Quality should be grounded in a clear vision of learning for students and adults, common curriculum and program design principles and research from the learning sciences. When program quality standards are clear and transparent, it is easier to manage having multiple educator pathways in place.

- Extend pathways to include induction and ongoing preparation. The best approaches to induction (those that show the best outcomes related to educator retention and quality) include multiple elements such as mentorship, principal support, reduced teaching load, co-teaching and ongoing coursework.[97] State leaders might also consider developing and scaling residency programs that combine certification, student teaching, and induction supports.[98]

Resources

Research

› Teacher Pathway Project

› Diversifying the Teacher Workforce with Grow Your Own' Programs

Case Examples

› TNTP Teaching Fellows

› RootsLA Teaching Pathway

› Pathways2Teaching

› Harvard Teacher Fellows

For a complete list of resources, see pages 85–90.

12 - REDESIGN EDUCATOR PREPARATION

Teaching in competency-based environments requires a different set of knowledge, skills and dispositions than teaching in traditional classrooms. Preparation programs can be a significant lever for scale and quality in competency-based education if they reimagine "preparation" to align with the broader set of competencies needed to support student learning and increase equity. Doing so will require re-imagining what is taught, how it is taught, and to whom it is accessible.

THE WHAT - CONTENT IN EDUCATOR PREPARATION

Preparing educators for competency-based classrooms and schools means providing them with more than content knowledge and tips for classroom management. Preparation aligned with the purpose and outcomes of competency-based education will prepare future educators to understand learner development and learner differences, know how their own cultural identity informs their practice, employ multiple responsive modalities to help learners access and engage with content, design deeper learning experiences, use assessment for and as learning, practice culturally responsive instruction and use data to adjust learner supports. Furthermore, educator preparation must also account for our rapidly changing world; we must develop educators who are not only prepared for competency-based classrooms and schools as we know them, but who are also prepared to adapt to changes in learning and teaching that we cannot yet imagine. Preparation programs can take a first step toward holistic redesign by defining competency frameworks that include critical knowledge, skills and dispositions.

THE HOW - PEDAGOGY IN EDUCATOR PREPARATION

We cannot expect educators to facilitate learning they have not experienced. Yet, there is often a gap between preparation programs' espoused learning theory - what they teach as best practice, and their lived learning theory - how they teach their students. Thus, the second major shift in preparation is aligning future educators' learning experiences with expectations for student learning. This can be understood as "making learning visible," showing learning theory in practice by making sure theory and practice align. In competency-based systems, we expect learning for students to be personalized, self-directed, connected to community, and supported by feedback and assessment. So it must be for educators. While programs will look different in different contexts, the most effective educator preparation programs will balance personalized coursework learning, clinical experience in a community of practice and opportunities for mentorship.[99] Personalized coursework might include in-person and virtual learning, as well as active and interactive learning experiences: projects, design-based learning and learning studios. Learning will be active and applied, as professional practice cannot be developed through classroom learning alone. Just as medical students engage in clinical practice, as law students work at mock trial or as engineers engage in specialized field work, would-be educators develop their knowledge and skill through a mix of learning, practice and modeling. Mentors support learners' metacognitive processes throughout the learning process, provide feedback, model desired behaviors and practices and support transitions into teaching practice.

THE WHO - MAKING EDUCATOR PREPARATION ACCESSIBLE

Preparation programs can promote educational equity for students and communities by promoting equity for future educators. Leaders can investigate selection processes to identify and eliminate bias, emphasize multicultural inclusion as a programmatic value and develop cultural fluency as a core competency for educators and staff, provide virtual learning options that make learning accessible to students with professional or familial responsibilities, and work with state leaders to remove tuition as a barrier for lower-income students.

Navigating systemic change is as challenging in higher education as it is in K-12. In both systems, innovation efforts can become disoriented if they are cumulative rather than coherent. Over time, change efforts that are mandated or attempted accumulate—one innovation is layered upon the last—obscuring the core purpose and vision for learning without actually changing learning at its core.[100] As emphasized throughout this paper, systemic innovation cannot be compelled. It cannot be piecemeal, and it cannot be top-down. To authentically change their purpose, culture and pedagogy, higher education and preparation programs will need to undertake participatory processes in partnership with states, districts and communities. They will need to create new visions for learning and teaching, develop new approaches and retire approaches that do not work. And, in many cases, they will need to leverage political capital to address barriers to innovation, such as accreditation policy and funding formulas. Political capital can be leveraged through collaborative approaches; single universities may find themselves challenged to overcome barriers, but coalitions of university, state, district and community leaders can more adeptly navigate and mitigate policy barriers.

Resources

Research

> Worlds Colliding or Aligning: Teacher Preparation During Educational Transformation
> Shaking up Credentialing: An Emergent Strategy
> Redesigning Teacher Preparation Today for the Classrooms of Tomorrow
> Learners First: How Educators Hone Their Craft

For a complete list of resources, see pages 85–90.

Case Study: Southern New Hampshire University

[2Revolutions](), an education design lab, and [Southern New Hampshire University]() (SNHU) will launch a Master's (M.Ed.) in Learning and Leading in a Competency-Based Environment in 2018. The impetus for the program was a frustration born out of the state's effort to scale competency-based education statewide: leaders realized that pre-service and in-service training were barriers to scaling competency-based education, and they needed to become enablers. Adam Rubin, Founder and Partner at 2Revolutions, explains the urgency and the rationale for the new model: "As the demand to transform schools increases, there is a growing need for training opportunities that can build real capacity of a cohort within a district or network context. Learning is inherently social, yet we so often get our training, particularly credentialing opportunities, disconnected from our peers and our context. Also, we think there is an important opportunity at this time to reshape credentialing. Seat time is a vestige of a different era."

2Revolutions and New Hampshire's state leadership aligned around this urgency for innovation (see 2015 [NHDOE Vision 2.0]() for more information), and SNHU was a natural collaborator. SNHU leadership shared the urgency for change, and as a private entity, they had autonomy to innovate. Furthermore, SNHU's reputation as a leader in higher education made them a trusted partner and would help elevate the program as a national proofpoint.

Rubin and his colleagues at 2Revolutions and SNHU created a core design team and recruited a technical advisory group of national leaders and practitioners. Through an iterative process, the teams developed vision and core beliefs, built out a competency framework and generated an overall program design. These design processes were anchored in a few big ideas.

1. Aligning program content and experience with the purpose and outcomes of competency-based education. The program is designed to deepen educators' and leaders' capacities to be competency-based practitioners. This means generating content aligned to these capacities, and ensuring that learners experience competency-based education in their own learning process. Learning will blend asynchronous (80%) and synchronous (20%) modalities. This flipped model increases accessibility and prioritizes collaboration in face-to-face learning. The program values learning, not seat time. Learners will advance along personalized learning paths based on demonstration of mastery. Multiple types of assessment are used as and for learning: diagnostic, formative, summative and performance-based. Self-assessment, peer assessment and assessment from adjunct professors are all integrated into a learner's experience.

2. Organizing learning around three sets of competencies. The program aims to deepen learners' competencies in three areas: 1) skills and dispositions, 2) teaching and learning competencies and 3) leadership competencies. These competencies are intentionally bundled and sequenced across three stackable blocks. The first block front-loads skills and dispositions, operating from the belief that competency-based practice cannot be developed without grounding ways of thinking and acting. Specifically, program designers share the vital importance of developing a learning orientation, a belief in engendering agency as core to learning and a commitment to educational equity. The first block also builds foundational knowledge in all four teaching and learning competencies: leveraging competencies, competency-based instruction, competency-based assessment and fostering learner agency. The second block deepens learning and teaching competencies through applied problems of practice and introduces foundational knowledge about visionary and change leadership. The third block emphasizes leadership competencies: leading change and developing sustainable structures for competency-based education.

3. Engaging authentic problem-based learning connected to practice. Program designers set out to address a problem in traditional higher education: learning is disconnected from practice. To correct this core flaw, the program is designed for hybrid district teams. Ten to fifteen-person teams will ideally include classroom, school and district-level leaders. Because competency-based education emphasizes collaborative practice rather than hierarchical structure, teams will be asked to engage in embedded problems of practice in "flat" learning structures, and each participant will bring their expertise to the table. This design is intended to achieve two outcomes: grounding learning in practice and building capacity for collaborative leadership across the system.

The Master's will launch with district cohorts from two states: New Hampshire and Kentucky, and the program is exploring partnerships across a range of other states. What will success look like? As Mr. Rubin describes, "Our goal is to learn in front of the field." The team will be studying big questions in the work: how to balance time and mastery, how to balance learning theory with problems of practice, what it means to be "ready" for this type of learning experience and how to build collaborative practice in hybrid teams. By learning publicly, the team hopes to contribute to the field and support future innovators. Success also means pressuring the system. Specifically, convincing more states and universities to launch similar programs and convincing states' professional standards boards to create new credentials for competency-based education. Program leaders aspire to be part of the larger effort to scale competency-based practice. By creating cross-functional leadership teams with the knowledge, skill and dispositions for competency-based education, designers hope to contribute to tipping points across the country.

Case Study: Virginia

Several years into a statewide transformation, the Commonwealth of Virginia is taking compelling new strides to increase educator and leader capacity for personalized, deeper learning models. In 2016 the state passed House Bill 895 and Senate Bill 336, which led to the development of the Profile of a Virginia Graduate. The "Profile" updates Virginia's statewide graduation requirements, opening the way for competency-based and personalized learning. These shifts accelerated previous innovation efforts, including high school program innovation and performance-based assessments.

Jobs for the Future (JFF), a national leader in student-centered learning, is providing Virginia leaders with ongoing support as they implement these initiatives. Stephanie Krauss, Director of Special Projects at JFF, describes early stages of the work this way, "All the changes were happening, but there was an opportunity to have them be better aligned and mutually advancing. We have had the privilege of partnering with the state as they look to link the various pieces together comprehensively." This birds-eye view led Stephanie and state leaders to an important realization: "We were talking about what students needed, and we realized that it would be unfair to retool graduation requirements and hold teachers and principals accountable, without providing them with additional support and training. State leaders are starting to think differently about pre-service preparation and in-service supports, accreditation and professional standards."

This realization kickstarted a multi-stage, statewide effort the align all aspects of educators' and leaders' professional experience with changes to the student experience. This design process, still underway, has thus far entailed four major phases of collaboration between with educators, school leaders, district leaders, state and nonprofit leaders, as well as post-secondary schools of education.

In Phase 1, JFF provided support to the Virginia Department of Education and William and Mary's School-University Research Network ("SURN") to convene local educators, school leaders and district leaders in central Virginia. Participants engaged in an open and generative dialogue. Educators and leaders studied the Profile of a Virginia Graduate and generated a comprehensive list of knowledge, skills and dispositions that educators and leaders would need to develop those competencies in students. They then looked at this list against current standards for certification and effectiveness, asking key questions. "Where is there alignment? Misalignment? Looking at existing standards against our list, which standards are nice to have? Which are a need to have? Which are outdated? Which are missing?"

Next, the comprehensive lists of educator and leader competencies generated in phase one was brought to a second convening of state and local leaders in Richmond. In this second phase, representatives culled and sorted the list of educator and leader competencies, looking for alignment with student outcomes and learning in a personalized, competency-based system. They also focused intently on alignment with state policy, including professional standards

for certification and accreditation. As Ms. Krauss explained, participants asked, "How are state requirements and district requirements supporting what we want for educators and leaders? Are there places where the requirements may hinder progress?" At the end of this second phase of work, the Virginia team was ready to articulate their "beta" version of professional standards for educators and leaders and create recommendations for preparation, certification and accreditation.

The next step was to engage higher education as a partner. JFF and state leaders identified the College of William and Mary as a lead partner. William and Mary's "SURN" had already played a leadership role and the College has a statewide reputation as a higher education leader, including a track record of innovation. William and Mary agreed to host the phase three meeting, which was a convening of higher education leaders. Higher education leaders reviewed the beta "Profile of a Virginia Education Leader" and "Profile of a Virginia Educator" and ultimately asked the following questions: "How do these frameworks reflect the way we prepare educators and leaders?" And, "can we commit to making changes that align with this new vision?" In the coming year, JFF and state leaders will distribute small capacity grants to help advance this redesign work in a higher education–K-12 collaborative redesign.

Stephanie Krauss reflects on what it took to get so many different stakeholders behind a common vision. Engaging higher education required finding a higher education leader to engage peer institutions and vetting new ideas before taking them to the entire higher education collaborative. "Before we brought anything to higher education we had to know that there was enough support and alignment between what we were proposing and people's lived experiences." More generally, Ms. Krauss attributes the early success of the initiative to the holistic, alignment-oriented approach. "It all started with recognizing that the world is changing, and we need to change with it. Then recognizing that we had to design all the way to the bottom. "What does the kid need? Then, what does the adult need? How about "little p" district policy? State policy? Higher education and pre-service? Accreditation and funding for those programs?'" Finally, Ms. Krauss reflects on two critical conditions for challenging change work: relationships and trust. "I am always struck by the power of the network of state leaders in Virginia and their involvement in work on the ground. These people do life together. The long-standing work that these leaders have done together multiple levels is compelling, and I think it is a condition that enabled us to move change so rapidly."

13 - DIVERSIFY PATHWAYS THROUGH THE PROFESSION

Forty percent of educators will leave education in their first five years of teaching, and this percentage is disproportionately high in high poverty communities and communities of color.[102] Attrition has many impacts: it results in learners (especially those who are poor and are not white) having newer and less effective teachers, it increases instability and stymies improvement processes, and it leaves districts and schools to manage the high cost of finding and onboarding new teachers.[103]

Generally speaking, educator retention is a good but inadequate strategy for improving the quality of teaching in any education system, competency-based or other. To improve the quality of teaching we need to develop, sustain, and effectively deploy good teachers so that they stay. Competency-based systems can improve retention of skilled educators by doing for educators what they do for learners: defining multiple, personalized professional pathways. Personalized professional pathways involve opportunities for leadership and specialization. They are made possible through flexible approaches to staffing and scheduling.[104]

"Over time, other professions have evolved toward specialization, creating opportunities for professionals to exercise and share their strengths. In too many places, teachers' career options are still restricted to either classroom teaching or moving into administration, requiring them to leave the classroom entirely. Many schools, districts and public charter school networks around the country have begun the important work of redesigning human capital systems to identify which teachers are highly effective. However, attention is still needed for the next crucial step: how to support and develop these great teachers to keep them in the classroom."[101]

- Teach +Plus, The Decade-Plus Teaching Career: How to Retain Effective Teachers Through Teacher Leadership, 2015

CREATING CAREER PATHWAYS

Previous sections described how competency-based systems distribute leadership and increase the variety of roles educators can play. These shifts impact professional culture and student learning, and they can also influence educators' career trajectories. Providing educators with opportunities to specialize and advance can keep them in the profession longer, and support their continued development as they develop the new knowledge and skill required for new roles.[105] Roles can include teacher leader roles like coach, team lead and master teacher and content specialists like data, art or STEM leads.[106] Leadership roles can be leveraged to improve school quality and address equity issues. In some districts, small cohorts of educators are placed in turnaround or redesign contexts to lead efforts and improve the quality of learning and teaching schoolwide.[107] In other cases, master educators are provided leadership opportunities to support wholescale improvement across their school, district, or the nation. They share and disseminate their practices through online platforms, professional learning communities and model teaching studios. In all cases, specialization and leadership aim to keep educators engaged by providing opportunities to push their professional practice.

ENABLING CAREER PATHWAYS

Implementing personalized professional pathways requires flexible approaches to staffing and scheduling. Flexible staffing and scheduling break away from uniform staffing models that assume all educators play the same role. Simply put, they use human capital systems and calendars to make room for educators to be in different roles doing different things.

Districts and schools can differentiate teaching responsibilities, making room for specialized educators to collaborate: for a learning specialist to partner with a lead educator on a thematic unit, for an associate educator to work with a lead educator to guide small group support, or for a counselor to work with small groups of learners in high-touch, personalized settings. In many cases this entails changes within district departments of human resources, negotiations within labor contracts, and flexible roles at the school level. Likewise, time is a critical ingredient in enacting personalized pathways. First, time must flex for educators to specialize. Second, educators must be able to reallocate their time to integrate new specializations and leadership roles into the core of their practice. If these new roles are add-ons—things we ask already busy educators to do on their own time and in addition to the same set of "core" responsibilities—then we defeat the purpose of supporting, sustaining and retaining our best people.

Resources

Research
> The Decade-Plus Teaching Career: How to Retain Effective Teachers through Teacher Leadership

Tools
> Designing Career Ladder Programs for Teachers and Principals

Case Examples
> Teach +Plus
> Opportunity Culture: Extending the Reach of Excellent Teaching
> Charlotte Mecklenburg Project L.I.F.T
> Denver Public Schools Teacher Leadership and Collaboration
> Leading Educators

14 - REDESIGN CREDENTIALING AND CERTIFICATION

In the traditional paradigm, educator certification is linear and time based. Educators are credentialed after pre-service preparation then renew their certification at set milestones by completing required hours in professional learning. This approach is antithetical to competency-based approaches, which are personalized rather than uniform and learning-centered rather than time-based. It is also ineffective. Studies show that traditional approaches to certification and recertification are poor predictors of an educator's capacity to improve student outcomes.[108] However, specific qualifications like an educator's subject matter expertise does correlate to improved student outcomes[109] and educators who receive National Board Certification do contribute to improved student learning.[110] This suggests that certification *can* be a meaningful lever for increasing educators' impact and improving the quality of teaching when it is aligned to the specific knowledge and skill educators are expected to demonstrate and when it is aligned to ongoing professional learning, collaboration and development. By redesigning certification systems, state, district and higher education leaders can play critical roles in improving teaching practice and aligning teaching with competency-based approaches. This will entail two major shifts: changing and aligning certification at the state level to reflect the specific knowledge and skill expected of students and educators and developing systems of ongoing evidence-based certification aligned to professional learning and personalized professional pathways.

ALIGNING CERTIFICATION WITH LEARNER AND EDUCATOR COMPETENCIES

Research suggests the following: "while there may be differences in knowledge or skills between the certified and uncertified, these differences are not pronounced enough to be picked up in student achievement gains. This is not to suggest that we need to do away with teacher certification. Rather, it means policymakers need to pay more attention to what is being signaled about teachers through certification. In other words, what important qualities or knowledge do certification tests measure, and how do they relate to student outcomes (not just test scores) that states, parents and students care about?"[111] At the state level, leaders can craft policy that aligns educator credentials with expectations for student outcomes and professional practice in competency-based systems. Ideally, this means aligning credentials with educator competency frameworks, creating specialized credentials that reflect the specific knowledge and skills needed for specialized roles educators can play in competency-based systems, working with higher education leaders to ensure preparation programs are developing these knowledge and skills.

LEVERAGING CREDENTIALING FOR PROFESSIONAL LEARNING AND ADVANCEMENT

The next step in redesigning educator credentialing is reimagining recertification as a lever for personalized professional learning, personalized professional pathways, and ongoing improvement in teaching quality. In traditional systems, learners move from grade level to grade level in age-based cohorts. They move when they earn credits based largely on seat time: the adequate number of hours dedicated to learning a given topic. Likewise, professional advancement in traditional systems is time-based, and has little or nothing to do with learning. For the most part, after educators are certified early in their careers they participate in one-size-fits all professional learning that lead to renewal of their teaching credential. They have few opportunities to pursue new knowledge or skills based in their interests or emerging specializations, and they receive little formal recognition for meaningful advancement in their practice. Competency-based approaches utilize credentialing to capture and validate the new competencies that educators develop as they advance on their own journeys of personal mastery. Credentialing motivates personal growth and development, validates learning through meaningful demonstration of competency and allows educators to advance and specialize in their roles on personally meaningful professional paths.

UTILIZING MICRO-CREDENTIALS

Micro-credentials have gained momentum as innovative and powerful alternatives to traditional credentialing. Micro-credentials validate that an educator has demonstrated a specific competency in practice using meaningful evidence of learning. They empower educators to pursue intrinsically motivated learning and gain recognition - formal and informal - for their growth. Whereas traditional professional learning and credentials "belong" to the state or district that require them, micro-credentials "belong" to educators who can transfer and translate them to build their professional profile and pursue opportunities for advancement.

Micro-credentials can flip the power dynamic in districts in schools, allowing educators to seek learning and gain recognition outside of the formal structures of professional learning and development. In districts and schools that have not overhauled their professional learning systems, the open and democratic nature of micro-credentials can be empowering. However, micro-credentials are most powerful when integrated into a coherent approach to educator development, advancement and compensation. When micro-credentials are aligned with educator development systems, they map directly to competency-

based learning progressions. Pathways are constructed as a bundled and/or sequenced set of micro-credentials. Educators retain some degree of choice along their pathways; they can choose which credentials to pursue from the bundle, the order, and/or the ways they will engage in learning and demonstrate mastery. Alignment with advancement means that credentials can be applied to new professional opportunities such as leadership roles, specialization and peer educator. This approach ties advancement to demonstration of competency (rather than seniority). Furthermore, this approach makes multiple professional pathways available to educators; educators can see multiple opportunities for increased responsibility and status tied directly to their learning. Finally, alignment with compensation can mean providing opportunities for teachers to earn stipends as they earn credentials, and/or aligning pay scales to credentials earned. Either way, this provides an additional incentive for educator learning and development.

Resources

Research

› Making Educator Professional Learning Personalized and Competency-Based through Micro-Credentials

› Micro-Credential: Personalizing Professional Development for Educators

› A Movement Towards Personalized Professional Learning: An Exploration of Six Educator Micro-credential Programs

› Micro-credentials: Igniting Impact in the Ecosystem

Case Examples

› Kettle Moraine: Micro-Credentials

› Micro-Credential Case Studies

For a complete list of resources, see pages 85–90.

Case Study: Baltimore County Public Schools

Baltimore County Public Schools (BCPS) is one of the largest and fastest growing school districts in Maryland, serving 114,000 students in 174 schools. In 2016, leadership initiated a district-wide effort to test and grow innovations in personalized learning. District staff began to ask difficult questions: "What does it mean to have a personalized learning environment for students and educators? What changes will we need to make to professional learning and development for all 10,000 of our educators? How will we need to rethink certification and credentials, and who else will need to be at the table?"

The Department of Innovative Learning and the Department of Organizational Effectiveness in BCPS partnered with Digital Promise to help address these questions. Micro-credentials seem a logical entry point to redesigning professional learning and professional pathways. Teachers were implementing new strategies and learning in the course of daily classroom instruction, but had no way to show this development or to receive credit for it. The team wagered that micro-credentials would appeal to educators who wanted new ways to include practice-based learning into their professional advancement, and that they would simultaneously present an opportunity to facilitate personalized and competency-based professional learning.

To prepare for the pilot, the Innovative Learning team selected micro-credentials from the Digital Promise library that aligned to the district's instructional priorities. The team put out a call to the entire district to invite participation, and approximately 100 educators signed up. The team convened pilot participants in the spring, then launched a rapid three-week pilot. Teams of educators in schools were encouraged to work together on a single micro-credential to provide the district and Digital Promise teams with feedback about accessibility and engagement.

Over the summer the district and Digital Promise teams studied pilot data and determined the best way to move forward. Rather than attempt to roll out to the whole district, the teams decided to continue working with the same initial cohort of early adopters, but to deepen and extend the pilot. They created stackable micro-credential

"bundles," thematically related micro-credentials, that educators could work on as a unit to improve their practice in meaningful ways. The second phase of the pilot focused on implementing and improving these aspects of the program model.

While micro-credentials offered educators valuable learning opportunities, they also presented opportunities to redesign certification and credentialing. As an initial step in this direction, district leadership worked with the Maryland State Department of Education to determine equivalencies between micro-credentials and continuing education credits. They agreed that two micro-credentials would equal one continuing education credit, which could be applied to an educator's eligibility for recertification. Building on this valuable step forward educators expressed interest in applying micro-credentials for graduate credit, not just recertification credit. The district team was excited about this direction but realized its own limitations: staff struggled to manage the quality of micro-credentials provided by various issuers and had limited resources to review and provide feedback on educators' demonstrations of learning.

BCPS saw an opportunity to work with a local institute of higher education, [Towson University](), to address both challenges. Towson agreed to develop and issue micro-credentials and engage their faculty as reviewers. They also agreed to translate these credentials into graduate credits that could eventually be applied toward a graduate credential. This arrangement was mutually beneficial. For Towson, the partnership would open access to new students and new revenue streams. For BCPS, the partnership would lessen the resources required to issue and validate micro-credentials. For educators, the partnership would allow them to translate practice-based professional learning into graduate credits and would therefore support their professional advancement. The BCPS-Towson pilot will launch in the 2018-19 school year. Both teams are optimistic and already considering opportunities to extend their partnership into educator preparation programs.

What has the BCPS team learned along the way? They reflect on three big lessons.

1. Educators need support while earning micro-credentials. BCPS was able to capitalize on a distributed leadership structure already in place in most schools, and empowered dedicated professional development teachers to play leadership roles with assisting their peers.

2. Communication is key. The Department of Innovative Learning created a cross-district working group with representatives of all impacted departments: professional learning, human resources and others. This approach kept critical district stakeholders engaged and enabled them to support the work.

3. Innovate within existing constraints. Innovative Learning leadership believes strongly that policy and structural barriers should not prevent innovation. Ryan Imbriale, Executive Director, puts it this way: "We innovate within the constraints provided and find a way to make it work."

15 - REDESIGN ACCOUNTABILITY FOR RECIPROCITY AND IMPROVEMENT

Redesigning accountability systems can be one of the most powerful levers in the redesign of professional systems for competency-based education. Accountability systems designed for reciprocity ensure that federal, state, district, community, school and classroom-level actors have responsibility for learning that is proportionate to their roles, with no one stakeholder group holding disproportionate responsibility. Furthermore, reciprocal accountability ensures balance between support and accountability. In other words, if we hold someone accountable for something, we must also ensure that they have the knowledge and skills necessary to produce the outcomes for which they are accountable.[112]

ORIENT ASSESSMENT TOWARD IMPROVEMENT
Reciprocal accountability begins with making assessment meaningful. As discussed earlier in this paper, meaningful assessment is used as and for student learning. Relatedly, assessment can be used as and for educator improvement, school improvement and district improvement. Accountability systems designed for improvement utilize multiple measures, balance time-bound and progress-related assessment of learning and share data transparently for the purposes of learning at all levels in the system.

Systems that use assessment for improvement have strong data systems, strong internal data cultures, and cultures of improvement based in trust. Often, developing trust begins with giving those most impacted by accountability - school leaders, educators and learners - the opportunity to contribute to the design and development of assessment and accountability systems. Not only does this approach lead to better-built systems and more meaningful assessment for learning, but it also shifts accountability to focus on learning. When school leaders, educators and students collaborate with district and state leaders, they begin to develop a culture of collective growth instead of fear and compliance.

BALANCING ACCOUNTABILITY AND SUPPORT

The traditional paradigm assumes that educators bear primary responsibility for implementing instruction and increasing student learning outcomes. This is problematic because it contributes to an imbalance: the degree of responsibility placed on educators is out of proportion with the support provided to them. As a result, educators often lack the knowledge and skill to meet expectations and support student learning. And, this imbalance can breed mistrust; educators can come to resent leaders in central office and beyond, who appear to hold more authority but have lesser accountability.

Competency-based systems balance accountability and support across all levels of the education system. The imperative for educators to improve is balanced with the imperative to invest in their capacity. Responsibility is shared. Educators assume responsibility for shifting their practice to meet student needs, even when this is challenging, inconvenient, or uncomfortable. They invest in their own learning, challenge previously held assumptions and ways of working, and try new things even when it would be easier not to. They embrace responsibility for student learning; they do not simply teach the content required and measure how much students learned, but continually adapt instruction and supports to meet each learner where they are and support them on the road to meeting high expectations. Systems leaders assume equal and commensurate responsibility. They are responsible for building robust systems to help educators increase capacity, allocating resources accordingly, aligning systems to incentive and support the behaviors they ask of educators and managing the political processes of change. Educators rise to the demands of new practice to support students, and systems leaders rise to the demand of supporting educators.

The traditional paradigm assumes that individual educators are singularly responsible for student learning. Competency-based systems recognize the value and necessity of team-based approaches. If teams collaborate to design, facilitate and continuously improve student learning in and beyond the classroom, it is inadequate to have evaluations that assess quality at the individual level alone. Competency-based systems therefore explore collaborative accountability approaches. These include team-based evaluations and school-based evaluations that support improvement.

Resources

Case Examples

> Accountability's New Frontier: Innovation From the States

> New Hampshire

  • Performance Assessment of Competency Education (PACE), New Hampshire

  • New Hampshire Performance Assessment Network

  • New Hampshire's PACE Assessments; Transforming Assessments and Learning from the Ground Up

  • Reciprocal Accountability for Transformative Change: New Hampshire's Performance Assessment of Competency Education

> California Core Districts

Research

> Continuous Improvement and Accountability

> What a Continuous Improvement Accountability System Needs to Do

> Why Next Generation Accountability for Improvement is Important

For a complete list of resources, see pages 85–90.

Case Study: Vermont

The State of Vermont Agency of Education (AOE) models the principle of reciprocal accountability by providing a statewide approach to continuous improvement. The Education Quality Team implements the statewide approach utilizing principles of improvement science. As defined by the Carnegie Foundation for the Advancement of Teaching, a national leader in improvement science for education, "Improvement science deploys rapid tests of change to guide the development, revision and continued fine-tuning of new tools, processes, work roles and relationships." In practice, the AOE guides and manages the statewide effort through four related strategies:

1. Training and support for applying an improvement science approach to continuous improvement planning;

2. Guiding the administration of comprehensive needs assessments and implementing continuous improvement plans;

3. Differentiating support and monitoring of continuous improvement plans; and

4. Organizing and managing systems of Networked Improvement Communities (NICs) in which schools can test and revise improvement theories, as well as share promising practices.

The AOE articulates a powerful theory of action about its own role in this work, emphasizing its commitment to model evidence-based approaches, engage in collaboration and community partnerships, operate with transparency, and invest deeply in educator capacity. In its own words, the AOE explains its commitment: "Our Education Quality Team (formerly School Effectiveness) is committed to providing evidence-informed, differentiated technical assistance, resources, professional learning opportunities and support to local education agencies, based on a coherent education quality framework for continuous improvement. Our goal is to build statewide capacity, equity, internal accountability and improve educational outcomes for all."[113]

The entire continuous improvement model is organized around statewide Education Quality Standards. Standards are organized in broad areas, including: curriculum and instruction, flexible pathways, personalized learning plans, graduation requirements, needs-based professional learning, comprehensive local assessment systems, and continuous improvement plans. Annually, schools and districts create continuous improvement plans. These plans are intended to provide guidance to teams as they undergo efforts to continually adapt and refine practices to improve learner outcomes. The AOE provides a number of resources to support the continuous improvement planning process.

- Education Quality and Continuous Improvement Framework
- Continuous Improvement Video
- Improvement Driver Diagram
- Improvement Fishbone Diagram Template
- Continuous Improvement Plan-Do-Study-Act Template

The AOE evaluates Education Quality through two primary mechanisms: an Annual Snapshot Review and an Integrated Field Review (IRF). Annual snapshots capture quantitative data. IRFs are holistic, community-driven and improvement-oriented school quality visits and reviews.

IRFs engage multiple district teams - including superintendents, school leaders and educators - to visit each other's schools and provide constructive feedback relative to the quality standards. The reviews are built around a few big ideas.

1. Multiple sources of data - The IRF process uses a holistic set of data points, including observations, interviews and document review. This presents a more authentic picture of a school's quality and progress.

2. Student voice - Students are deeply engaged in the IRF process, lending credibility to the findings and modeling the value of learner voice.

3. Collective responsibility - District teams visit one another's schools. Leaders in the system reflect that this "whole system engagement" is critical to building collective responsibility for learner outcomes, both within school systems and across them.

4. Transparency - IRFs provide communities with much richer information about education quality than data snapshots alone. IRF transparency builds trust with communities.

5. Improvement - IRFs provide leaders at all levels with actionable information about improvement priorities and strategies. The visits deepen their continuous improvement efforts.

Vermont's approach exemplifies reciprocal accountability at the state level. Vermont uses systems of evaluation and assessment for accountability and improvement, invests deeply in school quality and educator capacity, and engages stakeholders at all levels in the design and implementation of quality evaluation practices.

Local leaders share how the IRF process contributes to a culture of improvement in their district and schools. Andrew Jones, Director of Curriculum at Mill River Unified School District (MRUUSD), explains. "Formative assessments like the IRF are important from the state policy level all the way down to the classroom. The process mirrors how we approach professional learning in MRUUSD, emphasizing a culture of innovation and risk-taking. Putting proficiency-based learning into practice is incredibly complex and requires extended sensemaking by administrators and teachers alike. It requires educators to apply new strategies, rethink their pedagogy and uproot potentially long held, beliefs, values, and practices about teaching. We are always learning and improving, and engaging in the IFR process provided us with an avenue to collaborate and reflect on our practices. Neighboring schools and districts that were part of the regional IFR team were able to see how educators in our district implemented proficiency-based learning in their classrooms and to hear from administrators about underlying infrastructure that guided the work at the systems level. On our end, our leadership team used the IFR report as a resource in revising the district Continuous Improvement Plan. The recommendations and commendations laid out in the IFR report helped us rethink some of our approaches, but also recognized that many current structures are working well."

Reflection Questions

1. Do educator pipelines meet needs in your system? Do you have plans to address specific regional, academic, or equity-based priorities? Do certification policies align to your expectations for student learning and educator competency?

2. Do educator preparation programs develop the types of educators you need? Do they align to learning sciences and reinforce your vision for student learning? Is higher education a partner in your system's transformation efforts? How can it be?

3. Do your policies, practices and contracts allow room for teachers to experience meaningful role advancement and growth? Do you have flexibilities in place to support differentiated professional pathways? Do staffing models engage strong educators to support their peers and maximize student learning?

4. Does certification support professional advancement? Can educators apply authentic learning toward credentials? Does credentialing personalize professional learning?

5. Do systems of accountability allocate responsibility fairly across all levels of the system? Do you have systems in place for continuous improvement and learning? Are students, educators and leaders given the resources and supports they need to meet expectations for student success and professional practice?

MAPPING THE SHIFT: LEVERS FOR SYSTEMS CHANGE

Thus far this paper has organized change levers thematically to paint a picture of a teaching profession aligned to the purpose and outcomes of competency-based education: one that it is equity-oriented, learning-centered and lifelong. To translate this vision into action it is helpful to locate proposed strategies across the system at various levels of practice. The following section presents a map: a snapshot of change levers that can be adopted by states, districts, schools and institutes of higher education.

These are not the only four sectors with the right or the power to engage in the process of shifting professional practice. Educators, families, community organizations and other leaders can play critical roles in the paradigm shift: they can advocate and mobilize change, coordinate and facilitate change, and contribute to change efforts as partners and collaborators. This section begins with states, districts, schools and higher education because these are the institutions currently endowed with the formal authority to make the changes proposed. It concludes with a discussion about the role of communities in enacting and sustaining change, in alignment with the values of decentralizing power and enacting bottoms-up approaches.

Strategies for State, District, School and Higher Education Leaders

Navigating change requires a systems-oriented approach. It requires seeing the big picture, not merely the contributions of individual actors or institutions. It means identifying opportunities for leadership at different levels, accounting for the levels of authority and control currently allocated to different levels of the education system based on historic and bureaucratic design. At the same time, also means identifying opportunities for collaboration across levels of the system to create alignment, maximize political will and realize the full potential for change. And, it requires considering how environmental factors influences change efforts: how individuals, communities and systems interact in their larger social, economic and political contexts.[114]

This section maps change strategies from the previous section to leaders in states, districts, schools and institutes of higher education. Notably, change strategies are not exclusive to any one level. In all cases, leaders from two or more parts of the system need to be actively engaged to successfully enact change. For this reason, the map can be read in three ways:

- First, leaders can look at change strategies within their own locus of control at the state, district, school, or university.
- Second, leaders can identify critical partnerships, asking, "if I am going to engage in this work, who do I need to have alongside me?"
- Third, leaders can identify high-potential change levers. These are clusters of strategies that can result in significant and systemic change when implemented together.

Learners, educators and community are not directly identified in this section. However, the first change strategy for each level of the system is "elevate learners, educators and communities as partners." It is an assumption that any and all change efforts must be participatory and democratic to be successful. The subsequent section of this report will detail specific ways that learner, educator and community leaders can affect change and why they are vital leaders in the paradigm shift.

Change Strategies by Level of the System

STATE LEVERS		
EQUITY-ORIENTED	**LEARNING-CENTERED**	**LIFELONG**
(1) Elevate learners, educators and communities as partners (2) Mitigate individual and institutional barriers to equity (5) Increase flexibility for learner-centered practice	(6) Articulate competency-based pathways (8) Develop meaningful systems of assessments and evaluation (10) Innovate with Focused Experimentation and Learning	(11) Diversify pathways into the profession (12) Redesign educator preparation (13) Diversify pathways through the profession (14) Redesign credentialing and certification (15) Redesign accountability for reciprocity and improvement

States play pivotal roles in creating professional systems and policies. They model equity-oriented practice at all levels by facilitating inclusive processes and use community feedback to identify and mitigate institutional barriers to equity like resource allocation, assessment practices, access to quality learning opportunities and workforce composition and distribution. States are also key in decentralizing power; they can remove antiquated regulations from state code and push appropriate leadership and decision-making to local communities. From a learning standpoint, states can convene collaborative efforts to define learner and educator competencies. They can create tools and exemplars that help local leaders, educators and communities to understand competencies. With clarity about competencies, districts are then able to create the learner and educator pathways that respond to the needs and priorities in their communities. And, states can catalyze innovation by investing in innovation efforts and enacting policy that supports innovation research and development. Specifically, they can invest in new learning designs in schools and districts through innovation zones, pilot programs and enabling policies like credit flexibility and mastery-based diplomas.[115]

Arguably, states can be most pivotal in shifting policies and structures that will make teaching a lifelong profession. State leaders can enact policy that enables more balanced and authentic systems of assessments at the local level. State leaders, in cooperation with higher education and districts, set vision, direction and outcomes that guide the development of new teacher pathways, the redesign of certification and credentialing and the balance of responsibility across levels of the larger system. While higher education leaders must lead the way on redesigning educator preparation, states must be at the table for this process; they help align preparation with state and local needs as well as learner and educator competencies.

DISTRICT LEVERS

EQUITY-ORIENTED

(1) Elevate learners, educators and communities as partners

(2) mitigate individual and institutional barriers to equity

(4) Promote culturally responsive instruction

(5) Increase flexibility for learner-centered practice

LEARNING-CENTERED

(6) Articulate competency-based pathways

(7) Facilitate professional learning that improves practice

(8) Develop meaningful systems of assessments and evaluation

(9) Establish structures for distributed leadership and collaboration

(10) Innovate with Focused Experimentation and Learning

LIFELONG

(13) Diversify pathways through the profession

(14) Redesign credentialing and certification

(15) Redesign accountability for reciprocity and improvement

District leaders are vital in establishing equity-oriented cultures and redesigning systems of learning for students and educators alike. As is true at all levels of practice, this begins with enacting participatory processes that purposefully integrate educator, learner and community voice. Districts can be particularly pivotal in creating the conditions necessary for mitigating bias. This means conducting an inventory of practices that intentionally or unintentionally perpetuate inequity. And, it means allocating resources to help schools work with educators to address individual bias and increase capacity for culturally responsive instruction and inclusion. Districts, like states, can also catalyze equity and innovation by removing restrictive policies and practices that inhibit school-level flexibility, and therefore inhibit learner-centered practice: curriculum scope and sequence, uniform school day and school year calendars, antiquated information technology and learning management systems and others.

Districts lead the work of redesigning professional learning systems in alignment with competency-based learning systems for students. District leaders facilitate processes of defining educator learning pathways, working alongside educators and school leaders, developing guidelines and supports for professional learning structures, and enacting the supports and flexibilities necessary for distributed leadership. District leaders are particularly important in redesigning assessment and evaluation practices, as educator evaluation, learner assessment and learner grading are largely within district purview to change.

Though district leaders have limited authority to affect change in educator preparation or preparation pathways, they are key actors in diversifying pathways through the profession and aligning those pathways new authentic forms of certification and credentialing. District leaders can accelerate innovations in micro-credentialing, for example, by aligning educator roles, leadership, evaluation and even pay to micro-credentials earned. And finally, while states may have the most leverage in redesigning systems of reciprocal accountability, district leaders are also key. District leaders can ensure that responsibility is shared between central office and schools and lead the way to ensure educators have the supports they need to develop the knowledge, skills and dispositions required for new roles.

SCHOOL LEVERS

EQUITY-ORIENTED	LEARNING-CENTERED	LIFELONG
1) Elevate learners, educators and communities as partners	(7) Facilitate professional learning that improves practice	(13) Diversify pathways through the profession
(2) Mitigate individual and institutional barriers to equity	(9) Establish structures for distributed leadership and collaboration	(14) Redesign credentialing and certification
(3) Develop cultures of inclusion and learning	(10) Innovate with Focused Experimentation and Learning	
(4) Promote culturally responsive instruction		
(5) Increase flexibility for learner-centered practice		

Schools are vital units of change and improvement in competency-based education; while districts and states enact policies and create conditions that support competency-based practice, schools are where the majority of implementation occurs. As such, they play critical leadership roles in informing policy, enacting systems and continually improving practice.

Educators and school leaders bring equity-oriented practice to life. They are the primary agents of family and community engagement, as it is the daily actions of educators and leaders that shape relationships between schools and their larger communities. Likewise, while all levels of the system have a responsibility to mitigate individual and institutional barriers to equity and help increase capacity for culturally responsive instruction, schools pay particularly important roles in facilitating the listening, learning and development processes that enable educators to do this challenging work. Put differently, districts can allocate resources and set direction for bias initiatives and culturally responsive instruction training, but their success comes down to what happens within school communities. One way schools do this is by creating cultures of learning and inclusion: developing structures and allocating time for people—educators, learners and families—to be in relationship with each other and establish trust. School leaders can play a critical role in establishing trust when they invest in relationships, model consistency and operate with competency. And, schools can create the conditions for equity work by increasing flexibility, empowering educators, learners and families to be leaders in the process.

Undoubtedly, school leaders and educators should be at the table when districts and states are defining competencies and pathways. Schools' real point of leverage, however, is in creating the culture and structure for authentic learning, collaboration, innovation and improvement. Concretely, this means putting in place schedules and structures for collaboration and team learning, creating systems for personalized goal setting and progress monitoring, facilitating learning and feedback that improves practice and creating learning systems that allow educators to try, test and grow new practices. Most changes associated with making teaching a lifelong profession cannot be enacted from the school level alone, as they require policy change beyond a school's locus of control. However, schools do play two important roles. First, schools help diversify educator pathways by building flexible staffing and flexible schedules that enable educators to specialize in their roles. Second, schools can be leaders in the area of implementing micro-credentials. Schools can create professional learning pathways with micro-credentials, help educators specialize in their roles based on micro-credentials earned, and promote collaboration between educators as they earn micro-credentials.

HIGHER EDUCATION LEVERS

EQUITY-ORIENTED	LEARNING-CENTERED	LIFELONG
1) Elevate learners, educators and communities as partners (2) Mitigate individual and institutional barriers to equity (3) Develop cultures of inclusion and learning (4) Promote culturally responsive instruction	(6) Articulate competency-based pathways (8) Develop meaningful systems of assessments and evaluation (10) Innovate with Focused Experimentation and Learning	(11) Diversify pathways into the profession (12) Redesign educator preparation (14) Redesign credentialing and certification

Higher education and K-12 are often regarded and treated as two separate institutions. However, higher education wields significant influence in K-12 education in several ways, most notably in preparing the K-12 education workforce.

Universities, colleges and preparation programs can be instrumental in developing an equity-oriented profession. Specifically, they can contribute to efforts to mitigate bias, promote culturally responsive instruction, and develop cultures of inclusion and learning. The first way they do this is by creating learning environments for future educators that model these values and practices. Educators cannot practice what they do not experience, so it is important that their preparation programs expose them to equity-oriented pedagogies and cultures. The second way universities, colleges and preparation programs enact equity is by building educators' capacities as equity-oriented practitioners. Institutes of higher education can explicitly name these areas of knowledge, skill and disposition as important competencies and prioritize them in coursework, clinical work and mentorship.

Higher education is not directly responsible for setting pathways for educator competency development in the field. Higher education is, however, engaged in creating pathways for competency development and developing systems of meaningful assessment in preparation programs. They can align educator preparation with expectations for student learning in the field and create opportunities for future educators to build competency in key areas like competency-based learning design and assessment literacy. And, preparation programs can develop educators' mindsets and skills for innovation and improvement by integrating innovation structures into learning. Learning experiences such as design studios can model habits of innovation. Furthermore, preparation programs can engage their students - future educators - as collaborators in their own design and redesign processes to model learner agency and engagement.

Higher education is perhaps most instrumental in making teaching a lifelong profession. Obviously, higher education leaders are most uniquely and directly positioned to redesign educator preparation and diversify pathways into the profession, albeit in close partnership with states, districts and schools. Beyond this direct point of influence, higher education can also enable and expand efforts to redesign credentialing. They can do this from a policy standpoint alongside state leaders and can also do this by working with districts to co-design micro-credential pathways tied to higher education or continuing education credits.

Change Strategies Across the System

The table below depicts change strategies across the system. This view is helpful in illuminating points of interdependency and collaboration for leaders as they prepare to plan and execute change strategies with a systems orientation.

Four strategies cut across all levels of practice: elevating learners, educators and communities as partners; mitigating individual and institutional bias; engaging focused experimentation and learning; and redesigning credentialing and certification. This is significant for two reasons. First, these strategies present ripe opportunities for collaboration across all levels of the system. Second, the fact that all levels of the system are responsible for these strategies reflects the core values and ethos of competency-based education: engaging participatory and bottoms-up processes, directly confronting equity, practicing innovation and continuous improvement and creating competency-based learning pathways for all.

	Change Strategy	Higher Ed	State	District	School
1	Elevate learners, educators and communities as partners	✔	✔	✔	✔
2	Mitigate individual and institutional barriers to equity	✔	✔	✔	✔
3	Develop cultures of inclusion and learning	✔			✔
4	Promote culturally responsive instruction	✔		✔	✔
5	Increase flexibility for learner-centered practice		✔	✔	
6	Articulate competency-based pathways	✔	✔	✔	
7	Facilitate professional learning that improves practice			✔	✔
8	Develop meaningful systems of assessments and evaluation	✔	✔	✔	
9	Establish structures for distributed leadership and collaboration			✔	✔
10	Innovate with Focused Experimentation and Learning	✔	✔	✔	✔
11	Diversify pathways into the profession	✔	✔		
12	Redesign educator preparation	✔	✔		
13	Diversify pathways through the profession		✔	✔	✔
14	Redesign credentialing and certification	✔	✔	✔	✔
15	Redesign accountability for reciprocity and improvement		✔	✔	

Change Strategies Across the System

Leaders sometimes wonder "what are the most impactful changes, and where should I start?" This paper is not an implementation roadmap—it does not suggest a specific order or sequence of changes—but this section highlights individual strategies that can be powerful levers for systems changed when designed and implemented together.

(1) Elevate learners, educators and communities as partners	+	(2) mitigate individual and institutional barriers to equity	+	(5) Increase flexibility for learner-centered practice

Create foundations for equity-based practices - Engage leaders at all levels in participatory, community-engaged processes to understand and address barriers to equity. Provide leaders at all levels with ample autonomy to enact changes that mitigate bias and dismantle barriers within their locus of control.

(6) Articulate competency-based pathways	+	(13) Diversify pathways through the profession	+	(14) Redesign credentialing and certification

Develop new professional pathways - After defining competencies, lead a holistic design process to articulate and align educator's learning pathways, professional pathways and the approaches to certification and credentialing that will support both.

(7) Facilitate professional learning that improves practice	+	(10) Innovate with focused experimentation and learning	+	(8) Develop meaningful systems of assessments and evaluation

Create cultures of authentic adult learning - Take action to ensure that all parts of the system share a vision and understanding of high-quality professional learning. Engage leaders to define the policies and structures that will allow educators to lead innovation and improvements, taking risks in their practice, including evaluation systems that support learning and enable innovation.

(11) Diversify pathways into the profession	+	(12) Redesign educator preparation	+	(14) Redesign credentialing and certification

Create policy and systems to prepare and sustain educators - Leaders at all levels can reimagine and align educator preparation, pathways into the profession, certification and credentialing. Taken together and in alignment, these strategies can lead to significant change in educator's careers.

Enacting Pressure and Support: Roles for Educators and Communities

This paper outlines systems-level change strategies to create the workforce we need for growing and scaling competency-based education. Systems leaders—state, district, school and higher education—are vital players in the changes outlined, as they are formally endowed with the authority needed to shift policy, structure and practice. And yet, public education is not comprised of systems leaders alone. It is comprised of learners, educators, families, community leaders, nonprofit organizations, funders, advocates and researchers who care passionately about and are personally invested in education outcomes and equity. It is imperative that the paradigm shifts described in this paper integrate and elevate these stakeholders as critical partners in change. This is a matter of principle, as competency-based education systems are grounded in values of distributed leadership and co-creation. This is also a matter of pragmatism, as participatory processes will be better tailored to their communities, more impactful and more sustainable.

This section identifies three ways that communities can contribute to the paradigm shift in teaching: building political will, collaborating in design and collaborating in execution. While it is incumbent upon systems leaders to engage their communities, this section is not written for systems leaders. It is written specifically for families, educators, advocates and supporters

Building Political Will - Communities can create urgency for change. They advocate for change when political will is lacking, and craft the compelling "why," keeping learner and community needs at the forefront. Learners, families and educators are particularly vital voices, as they are the closest to what happens in schools day in and day out.

Community leaders can corral resources and form coalitions to enable change in ways that systems leaders cannot. This is especially true when there is trust lacking between communities and education systems; when trust is lacking, it is hard or even impossible for systems leaders to organize their communities. Community-based leaders have the social capital for this work. Sometimes, community leaders will organize coalitions and political will on behalf of systems leaders. Often, they will do so to challenge systems leaders. Conflict is inherent, even necessary, to effective change processes. Community coalitions can put pressure on education systems and offer productive challenge to produce more responsive solutions and better outcomes.

Researchers can play key roles in change processes, because they can contribute to or even direct the conversation about impact, outcomes and quality. Specific to the topic of professional practice for competency-based education, researchers can develop, study and promote multiple measures of student success and educator competency and provide the field with an evidence base for effective professional learning. These efforts can advance the national conversation about new approaches to professional learning and development and to support continuous improvement.

Collaborating in Design - Communities are co-creators whose perspectives and expertise are essential to effective change processes. Engagement models sometimes focus on community consultation, collecting input and feedback to guide design. This is valuable but insufficient. Communities need to be at the table as partners in design from the beginning.

Community leaders, families, learners and educators can sit on design teams to set vision, lead design and devise implementation plans. Optimally, community co-creators share leadership in these processes; they help structure the design process itself, enlist

> "[Community engagement is] the process of working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the wellbeing of those people. It is a powerful vehicle for bringing about environmental and behavioral changes that will improve the health of the community and its members. It often involves partnerships and coalitions that help mobilize resources and influence systems, change relationships among partners, and serve as catalysts for changing policies, programs and practices."[116]
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> *- Centers for Disease Control and Prevention, Principles of Community Engagement, 1997*

additional input and support, and communicate design plans to communities. This approach is consistent with competency-based education's emphasis on decentralizing leadership and sharing power, and it increases community ownership.

Collaborative design processes are complex, especially when they involve multiple organizations across multiple levels of the K-12 and higher education systems. Community organizations can play important roles as facilitators of change processes, coordinating participants, timelines and helping manage progress against desired outcomes. Having community in a facilitator role is especially valuable when leaders from different organizations or institutions want to share power on an equal playing ground during a design process. For example, state leaders can collaborate more effectively alongside districts and schools when an independent entity is facilitating.

Collaborating in Execution - Competency-based systems extend learning beyond the classroom, raise expectations for educators and leaders and catalyze significant structural shifts in education at all levels. They broaden the scope of education beyond the walls of school and raise the complexity associated with teaching and leading. Managing this breadth and complexity requires partnership. Whereas the traditional paradigm assumes that educators, school leaders and administrators are singularly responsible for managing learning, competency-based systems engage communities as collaborators and co-producers. These partners play vital and valued roles in providing learning opportunities, developing educators and managing ongoing systems change.

Community partners play important roles in student learning, working alongside educators. They serve as community project leads, mentors, apprenticeship leads, and more. Community organizations supplement states' and districts' capacity for developing educators and leaders, offering professional learning, designing micro-credentials and more. And community organizations help districts and states manage the complexity of change. They coordinate, facilitate, guide, evaluate and share the work of change processes related to new policy, new systems and new practices. In sum, states, districts and schools cannot go it alone. Engaging communities as collaborators and co-producers distributes leadership and ownership and helps system leaders manage the complexity of change.

CONCLUSION

Competency-based education holds potential for true transformation in public education. More and more states, districts and schools are embracing competency-based approaches in hopes of deepening learning, increasing equity and preparing all learners with the knowledge and skills to thrive. Their work challenges core assumptions about public education and demands dramatic changes in professional practice at all levels; realizing the promise of competency-based education will require growing a workforce with new sets of knowledge, skills and dispositions and shifting instructional practice at scale. Building on the work of innovators across the nation, we can now imagine what this workforce would look like. Even more, we can identify the systems that would need to be in place to continuously grow, develop and sustain this workforce over time.

Reimagining and redesigning professional practice for competency-based education will require action at all levels. Anyone can start this work in their community. Any parent, educator, principal, or superintendent. But, no one person can do it alone. The paradigm shift we envision in this paper will take coordinated, sustained effort. This paper is a calling to communities and leaders across the nation: to move toward mastery by growing and developing a new workforce for competency-based education.

Glossary

Assessment Literacy

Assessment literacy is the collection of knowledge and skills associated with appropriate assessment design, implementation, interpretation, and, most importantly, use. A critical aspect of assessment literacy is that educators and leaders know to create and/or select a variety of assessments to serve different purposes such as improving learning and teaching, grading, program evaluation and accountability. However, the most important component of assessment literacy is the degree to which educators and others are able to appropriately interpret the data coming from assessments and then take defensible instructional or other actions.

Calibration

Calibration is a process of adjusting results based on a comparison with a known standard or "calibration weight" in order to allow defensible comparisons of student assessment results; for example, across different entities (e.g., schools, districts, states). In order to define a calibration weight, we need to have something in common, either the same students taking different assessments or different students taking the same assessments. The latter is generally more practical, so common performance tasks have been administered to students in different schools, and district performance assessments serve as a "calibration weight" to evaluate the extent to which teachers in different locales evaluate the quality of student work similarly.

Comparability

Comparability is defined as the degree to which the results of assessments intended to measure the same learning targets produce the same or similar results. This involves multiple levels of documentation and evaluation starting from the consistency with which teachers in the same schools evaluate student work similarly and consistently, to the degree to which teachers in different schools and districts evaluate student performances consistently and similarly, and finally the degree to which the results from students taking one set of assessments can be compared to students taking a different set of assessments (such as comparing pilot and non-pilot districts). A determination of "comparable enough" for any type of score linking should be made based on clear documentation for how comparability is determined and that it is defensible.

Competency-Based Education

Competency education, also known as mastery-based, proficiency-based, or performance-based, is a school- or district wide structure that replaces the traditional structure to create a system that is designed for students to be successful (as compared to sorted) and leads to continuous improvement.

In 2011, 100 innovators in competency education came together for the first time. At that meeting, participants fine-tuned a working definition of high quality competency education, which includes five elements:

- Students advance upon demonstrated mastery.
- Competencies include explicit, measurable, transferable learning objectives that empower students.
- Assessment is meaningful and a positive learning experience for students.
- Students receive timely, differentiated support based on their individual learning needs.
- Learning outcomes emphasize competencies that include application and creation of knowledge, along with the development of important skills and dispositions.

Continuum or Learning Continuum

A continuum refers to the set of standards or learning targets along a span of education (for example, K-12 or performance levels 9-12). It is the set of expectations for what students should know and be able to do. However, it does not imply that students need to learn all of the standards in a linear way or be taught them based on their age-based grade level. The student learning trajectory and research on learning progressions should inform instruction.

Curriculum

There are many definitions of curriculum in education. Internationally, the term curriculum or curriculum frameworks refers to the high level knowledge and skills students are expected to learn and describe (i.e., competencies). The curriculum framework may include student learning objectives or learning standards. In the United States, the term curriculum also refers to the resources that teachers use when designing instruction and assessment to support student learning, including: the course syllabi, units and lessons that teachers teach; the assignments and projects given to students; the materials (books, videos, presentations, activities) used in a course, module, or unit; and the assessments used to evaluate student learning and check for understanding. *Competency*Works will use the term learning experiences to refer to the design of the learning process and the accompanying set of resources to support student learning.

Culturally Responsive Teaching

First coined by Gloria Ladson-Billings in 1994, culturally responsive teaching is the pedagogical practice of recognizing, exploring, and responding to students' cultural contexts, references, and experiences. Cultural responsiveness builds upon eight principles:

- Communication of High Expectations
- Active Teaching Methods
- Practitioner as Facilitator
- Inclusion of Culturally and Linguistically Diverse Students
- Cultural Sensitivity
- Reshaping the Curriculum or Delivery of Services
- Student-Controlled Discourse
- Small Group Instruction

The New York City Mastery Collaborative highlights that a competency-based approach can promote cultural responsiveness in the following ways:

- Transparency: path to success is clear and learning outcomes are relevant to students' lives and interests. Shared criteria reduce opportunity for implicit bias.
- Facilitation shifts: refocus the roles of students and teachers to include flexible pacing, inquiry-based, collaborative approach to learning. Students drive their own learning, and teachers coach them.
- Positive learning identity: growth mindset and active learning build agency and affirm students' identities as learners (academics, race, ethnicity, gender, sexual orientation, etc.).

Deeper Learning

The term deeper learning is often used to describe highly engaging learning experiences in which students apply skills and knowledge and build higher order skills. The Hewlett Foundation defines deeper learning as six competencies: master core academic content; think critically and solve complex problems; work collaboratively; communicate effectively; learn how to learn; and develop academic mindsets. Deeper learning intersects with competency-based education in multiple ways, including defining the learning outcomes; emphasis on lifelong learning skills such as academic mindset and learning how to learn; and importance of applying skills and knowledge to build competencies.

Educational Equity

There are many definitions of equity in education. *Competency*Works will use the definition from the National Equity Project: Education equity means that each child receives what he or she needs to develop to his or her full academic and social potential. Working towards equity involves:

1. Ensuring equally high outcomes for all participants in our educational system; removing the predictability for success or failures that currently correlates with any social or cultural factor;

2. Interrupting inequitable practices, examining biases, and creating inclusive multicultural school environments for adults and children; and

3. Discovering and cultivating the unique gifts, talents, and interests that every human possesses.

Equality

Equality is related to the principles of fairness and justice. It refers to equal treatment and, in the past, has been used to refer to equal inputs. *Competency*Works uses the term equality as an aspirational goal of all students reaching their full potential.

Fixed Mindset (See Growth Mindset)

Carol Dweck's research suggests that students who have adopted a fixed mindset — the belief that they are either "smart" or "dumb" and there is no way to change this — may learn less than they could or learn at a slower rate, while also shying away from challenges (since poor performance might either confirm they can't learn, if they believe they are "dumb," or indicate that they are less intelligent than they think, if they believe they are "smart"). Dweck's findings also suggest that when students with fixed mindsets fail at something, as they inevitably will, they tend to tell themselves they can't or won't be able to do it ("I just can't learn Algebra"), or they make excuses to rationalize the failure ("I would have passed the test if I had had more time to study"). (Adapted from the Glossary of Education Reform edglossary.org.) The traditional system of education was developed based upon a fixed mindset and resulted in a belief that part of the K-12 system's function was to sort students.

Growth Mindset (See Fixed Mindset)

The concept of a growth mindset was developed by psychologist Carol Dweck and popularized in her book, Mindset: The New Psychology of Success. Students who embrace growth mindsets — the belief that they can learn more or become smarter if they work hard and persevere — may learn more, learn it more quickly, and view challenges and failures as opportunities to improve their learning and skills. Dweck's work has also shown that a "growth mindset" can be intentionally taught to students. (Adapted from the Glossary of Education Reform edglossary.org.) Competency education is grounded in the idea that all students can succeed with the right supports, including learning how to have a growth mindset.

Habits of Success

Habits of Success (also called habits of work and habits of mind) are directly related to the ability of students to take ownership of their learning and become self-directed learners. There are a variety of Habits of Work (specific practices or behaviors) and Habits of Mind (skills, perspectives, and orientation) that help students succeed in school or the workplace. Schools tend to focus on a few of the habits of work and mind to help students learn the skills they need to take ownership of their learning. See Learning and Leading with Habits of Mind.

Higher Order Skills/Deeper Learning Competencies

Higher order skills refer to skills needed to apply academic skills and knowledge to real-world problems. The term can refer to the higher levels on Bloom's or Webb's taxonomy or to a set of skills such as creativity, critical thinking, problem-solving, working collaboratively, communicating effectively, and an academic or growth mindset.

Learning Resources

The materials explored during a course, module, unit, or activity: videos, images, audio, texts, presentations, etc.

Learning Experiences

The term learning experiences is used to convey the process and activities that students engage in to learn skills and knowledge. The term refers to the package of outcomes and targets, activities, resources, assessments, and pedagogical strategies that are associated with a course, module, or unit. In the United States, this is generally referred to as curriculum. (See definition of Curriculum.)

Learning Progression

Learning progressions are research-based approaches and maps how students learn key concepts and skills as described in Achieve's briefing *The Role of Learning Progressions in Competency-Based Pathways.*

Learning Sciences

The learning sciences are concerned with "the interdisciplinary empirical investigation of learning as it exists in real-world settings." Core components of learning sciences research include:

- Research on thinking: including how the mind works to process, store, retrieve, and perceive information;

- Research on learning processes: including how people use "constellations of memories, skills, perceptions, and ideas" to think and solve problems, and the role that different types of literacies play in learning; and

- Research on learning environments: including how people learn in different contexts other than a direct instruction environment with a core principle of creating learner-centered learning environments.

Lifelong Learning Skills

In the paper *Lifelong Learning Skills for College and Career Readiness: Considerations for Education Policy,* AIR describes lifelong learning skills as providing "the foundation for learning and working. They broadly support student thinking, self management, and social interaction, enabling the pursuit of education and career goals." *Competency*Works uses the term to capture the skills that enable students to be successful in life, navigating new environments, and managing their own learning. This includes a growth mindset, habits of success, social and emotional skills, metacognitive skills, and higher order/ deeper learning competencies.

Moderation

Moderation is a process used to evaluate and improve comparability. The process involves having teachers (or others) work to develop a common understanding of varying levels of quality of student work. Moderation processes are often used as part of calibration, but moderation is a way to evaluate comparability while calibration is the adjustment based on these findings.

Personalized Learning

iNACOL defines personalized learning as "tailoring learning for each student's strengths, needs and interests—including enabling student voice and choice in what, how, when and where they learn—to provide flexibility and supports to ensure mastery of the highest standards possible." Personalized learning takes into account students' differing zones of proximal development with regards to academic and cognitive skills, as well as within the physical, emotional, metacognitive, and other domains. Barbara Bray and Kathleen McClaskey explain in the PDI Chart that personalized learning is learner-centered, whereas the related approaches of differentiation and individualization are teacher-centered. Thus, teachers may use a personalized and differentiated approach to meet students where they are.

Social and Emotional Learning

According to CASEL, "social and emotional learning (SEL) is the process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions." They focus on the development of five competencies: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making.

Student Agency

Student agency or student ownership of their education refers to the skills and the level of autonomy that a student has to shape their learning experiences. Schools that want to develop student agency will need strategies to coach students in the lifelong learning skills (growth mindset, meta-cognition, social and emotional learning, and habits of work and learning) and to establish practices that allow students to have choice, voice, opportunity for co-design and the ability to shape their learning trajectories.

Student Learning Trajectories

*Competency*Works refers to trajectories as the unique personalized path each student travels to achieve learning goals on the way to graduation. Educators apply what is known about learning progressions toward helping students make progress on their trajectory.

Universal Design for Learning (UDL)

CAST defines Universal Design for Learning as "a framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn." UDL guides the design of instructional goals, assessments, methods, and materials that can be customized and adjusted to meet individual needs.

Zone of Proximal Development (ZPD)

A term developed by psychologist Lev Vygotsky to refer to the moment(s) during the learning process that lives between what one can do on one's own and what one cannot do at all. It is the zone in which guidance and support is needed in order to become independently competent. A personalized approach to learning provides students with access to learning experiences attuned to students' individual ZPD — which sometimes overlaps with others', but frequently may not.

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Resources

Evolving Educator Roles

- **Teachers at Work: Six Examples of Everyday Practice**
  https://studentsatthecenterhub.org/wp-content/uploads/2015/10/ExecSumm-Teachers-at-Work.pdf

- **The Shifting the Paradigm of Teaching: Personalized Learning According to Teachers**
  https://knowledgeworks.org/wp-content/uploads/2018/01/teacher-conditions.pdf

- **Personalized Learning Policy Play: Create Greater Flexibility in Class Configurations and in How Schools Allocate and Use Staff Resources**
  https://bellwethereducation.org/sites/default/files/Play9_GreaterFlexibility.pdf

- **School Profiles**
  http://publicimpact.com/innovative-staffing-to-personalize-learning/#WestBelden

- **Brooklyn Lab Charter Schools Case Study**
  https://www.christenseninstitute.org/wp-content/uploads/2018/05/innovative-staffing_2018_final.pdf

- **Brooklyn Lab Charter Schools Brief**
  https://drive.google.com/file/d/199yoBRFQQshmWxJbKmQ_-kL9jeb9zF12/view

- **Bronx Arena: Organizing Spaghetti**
  https://www.competencyworks.org/case-study/bronx-arena-organizing-spaghetti-part-1/

- **Pittsfield Rethinks Adult Roles**
  https://www.competencyworks.org/uncategorized/pittsfield-rethinks-adult-roles/?x=0&y=0&_sf_s=evolving+roles

Evolving Educator Competencies

- **Educator Competencies for Personalized, Student Centered Teaching**
  https://www.ccsso.org/sites/default/files/2017-12/EducatorCompetencies_081015.pdf

- **D51 Teaching and Learning Framework**
  http://competencyworks.pbworks.com/w/file/fetch/121411554/Teaching%20Learning%20Framework%20v%208%20April%2027%202017.pdf

- **Building 21 Educator Competencies**
- *https://docs.google.com/document/d/1hcuPxWrZqdtV78cdFm6TmzsIS0DLUaBJESP8ahICO_s/edit*

- **Big Picture Learning: Met Advisor Competencies**
  http://studentsatthecenterhub.org/wp-content/uploads/2015/04/BP-Advisor-Competencies-and-Skills-2014.pdf

- **iNACOL Blended Learning Teacher Competency Framework**
  https://www.inacol.org/wp-content/uploads/2015/02/iNACOL-Blended-Learning-Teacher-Competency-Framework.pdf

Introduction: Teaching as an Equity-Oriented, Learning-Centered, Lifelong Profession

- **In Pursuit of Equality: A Framework for Equity Strategies in Competency-Based Education**
  https://www.competencyworks.org/wp-content/uploads/2017/06/CompetencyWorks-InPursuitOfEquality-AFrameworkForEquityStrategiesInCompetencyBasedEducation.pdf

- **Designing for Equity: Leveraging Competency-Based Education to Ensure All Students Succeed**
  https://www.competencyworks.org/wp-content/uploads/2018/04/CWSummit-DesigningForEquity-29Mar2018.pdf

- **Quality and Equity By Design: Charting the Course for the Next Phase of Competency-Based Education**
  https://www.competencyworks.org/wp-content/uploads/2017/10/CompetencyWorks-QualityAndEquityByDesign.pdf

1 - Elevate Learners, Educators and Communities as Partners

- **Communication: Sanborn Regional High School**
  https://www.competencyworks.org/how-to/communicating-with-parents-on-the-transition-to-competency-education/

- **Collaborative Design: McComb School District**
  https://www.competencyworks.org/case-study/mccombs-strategic-planning-begins-with-the-community/?_sft_post_tag=communication-community

- **Collaborative Design: Empower Community High School**
  https://empowerhighschool.org

- **Communication: Five Examples of School Communications Strategies on Five Platforms, *Competency*Works**
  https://www.competencyworks.org/resources/five-examples-of-effective-school-communication-strategies-on-five-different-platforms/

- **Communication: Communication and Outreach Strategies for Leaders Transitioning to Personalized Learning, iNACOL**
  https://www.inacol.org/resource/communication-and-outreach-strategies-for-leaders-shifting-to-personalized-learning/

- **Communication: Communications Planning for Innovation in Education, Education Elements**
  https://www.edelements.com/hubfs/PL%20Communications%20Guilde/Personalized%20Learning%20Communications%20Guide.pdf

- **Visioning: Six Tips for Engaging Community in the Visioning Process**
  https://knowledgeworks.org/resources/community-vision-personalized-learning/

- **Input: Listening to Parents: Sample Focus Group and Survey Materials**
  https://www.achieve.org/files/Achieve_StudentAssessmentInventory_ListeningtoParents.pdf

- **Input: Listening to Students: Sample Focus Group and Survey Materials**
  https://www.achieve.org/files/Achieve_StudentAssessmentInventory_ListeningtoStudents.pdf

- **Human Centered Design: Shadow a Student Challenge**
  https://www.shadowastudent.org/

- **Human Centered Design: IDEO Design Thinking for Educators**
  https://designthinkingforeducators.com/

- **Human Centered Design: Equity Design**
  https://medium.com/equity-design/racism-and-inequity-are-products-of-design-they-can-be-redesigned-12188363cc6a

2 - Mitigate Individual and Institutional Barriers to Equity

- **Diversity Toolkit: A Guide to Discussing Identity, Power and Privilege**
  https://msw.usc.edu/mswusc-blog/diversity-workshop-guide-to-discussing-identity-power-and-privilege/

- **Critical Practices for Anti-Bias Education**
  https://www.tolerance.org/sites/default/files/Critical%20Practicesv4_final.pdf

- **Courageous Conversations About Race**
  https://courageousconversation.com/about/

- **Assumptions Wall**
  http://www.thinkingcollaborative.com/wp-content/uploads/2016/10/Assumptions-Wall.pdf

- **The Ladder of Inference**
  http://www.ucd.ie/t4cms/The%20Ladder%20of%20Inference.pdf

- **Disruptive Equity Education Project**
  http://digdeepforequity.org/

- **Diversifying the Teaching Profession: How to Recruit and Retain Teachers of Color**
  https://learningpolicyinstitute.org/sites/default/files/product-files/Diversifying_Teaching_Profession_REPORT_0.pdf

- **Strengthening and Diversifying Teacher Recruitment Pipeline: Current Efforts**
  http://www.nea.org/assets/docs/HE/TQbook09.pdf

- **Tackling Gaps in Access to Strong Teachers: What State Leaders Can Do**
  https://1k9gl1yevnfp2lpq1dhrqe17-wpengine.netdna-ssl.com/wp-content/uploads/2014/09/Tackling-Gaps-in-Access-to-Strong-Teachers-Executive-Summary.pdf

- **Diversifying the Teaching Profession through High-Retention Pathways**
  https://learningpolicyinstitute.org/product/diversifying-teaching-profession-brief

3 - Develop Cultures of Inclusion and Learning

- **Inclusive Classroom Climates**
  https://ctl.yale.edu/ClassClimates

- **Developing an Inclusive Classroom Culture**
  http://inclusive.tki.org.nz/guides/developing-an-inclusive-classroom-culture/

- **Inclusion and Respect: GLSEN Resources for Educators**
  https://www.glsen.org/educate/resources

- **Universal Design For Learning**
  http://www.cast.org/our-work/learning-tools.html#.W70BvBNKi7i

- **Culture in the Classroom**
  https://www.tolerance.org/culture-classroom

4 - Promote Culturally Responsive Instruction

- **Culturally Responsive Teaching Matters!**
  http://www.equityallianceatasu.org/sites/default/files/Website_files/CulturallyResponsiveTeaching-Matters.pdf

- **Culturally Responsive Instruction**
  https://inclusiveschools.org/category/resources/culturally-responsive-instruction/

- **Culturally Responsive Resources**
  http://cstp-wa.org/cstp2013/wp-content/uploads/2014/08/NTA_resources.pdf

- **Culturally Responsive Teaching**
  https://www.edutopia.org/topic/culturally-responsive-teaching

- **Being Culturally Responsive**
  https://www.tolerance.org/professional-development/being-culturally-responsive

- **Culturally Responsive Education at Epic Schools**
  http://epicschoolsnyc.org/approach/
- **Multi-Age Classrooms at West Belden Academy**
  https://practices.learningaccelerator.org/strategies/multi-age-classrooms
- **Multi-Age Class at Lake Wylie Elementary**
  https://www.ncld.org/wp-content/uploads/2017/07/Lake-Wylie.Case-Study.Fin_-1.pdf
- **Community Connected Learning at Harbor Freight Fellows**
  https://www.harborfreightfellows.org/

Case Study: Growth Through Connections

- **Imaginarium**
  https://imaginarium.dpsk12.org/
- **Growth Through Connections**
  https://imaginarium.dpsk12.org/opportunity/growth-through-connections
- **Dr. Christopher Emdin**
  http://chrisemdin.com/
- **Learn more about Dr. Emdin's work here.**
  https://www.pbs.org/newshour/education/what-white-folks-who-teach-in-the-hood-get-wrong-about-education
- **Lab Classrooms**
  https://www.pebc.org/approach-to-teacher-learning/

5 - Increase Flexibility for Learner-Centered Practice

- **Portfolio Strategy**
  https://www.crpe.org/research/portfolio-strategy
- **City Examples**
  https://www.crpe.org/external-resources
- **Portfolio Strategy Toolkit**
  http://research.crpe.org/reports/portfolio-strategy-toolkit/

6 - Articulate Competency-Based Professional Pathways

- **Preparing Teachers for Deeper Learning: Competency-Based Teacher Preparation and Development**
  https://digitalpromise.org/wp-content/uploads/2014/05/FINAL-Preparing-Teachers-for-Deeper-Learning-Paper-1.pdf
- **Mapping Mastery: Building Educator Competency for Personalized Learning**
  http://www1.headwaycloud.com/clients/91/uploaded_files/naate_mapping_mastery_full_rprt_teacher_competence_student_ctrd_models_01.2017_3YF1qg.pdf
- **Training Teachers for Competency-Based Learning Classrooms**
  https://www.competencyworks.org/resources/training-teachers-for-competency-based-learning-classrooms/

- **Educator Micro-credentials Implementation Roadmap**
  https://digitalpromise.org/initiative/educator-micro-credentials/micro-credentials-roadmap/
- **Competency-Based Learning for Teacher Development and Learning**
  https://bloomboard.com/
- **Train Your People**
  https://practices.learningaccelerator.org/do/train-your-people/supports?grade=&audience=&stage=

Case Study: Juab School District

- **Juab School District**
  https://www.juabsd.org/index.php
- **Digital Promise**
  https://digitalpromise.org/
- **Digital Promise library**
  https://microcredentials.digitalpromise.org/explore
- **#JSDInnovates**
  https://sites.google.com/juabsd.org/jsdinnovates/home?authuser=0
- **Pathways**
  https://docs.google.com/document/d/1DX0YZOY0auO9hIep4bivNL-se7hGPBErehFYA10sep8/preview
- **Education Elements' Core Four**
- *https://www.edelements.com/hubfs/Core_Four/Education_Elements_Core_Four_White_Paper.pdf*

7 - Facilitate Professional Learning that Improves Practice

- **Science of Learning**
  https://deansforimpact.org/resources/the-science-of-learning/
- **Learning Sciences**
  https://digitalpromise.org/initiative/learning-sciences/
- **Levers and Logic Models: A Framework to Guide Research and Design of High-Quality Competency-Based Systems**
  https://www.inacol.org/wp-content/uploads/2018/05/CompetencyWorks-Levers-and-Logic-Models.pdf
- **Bridging the Gap Between Standards and Achievement: The Imperative for Professional Development in Education**
  http://www.shankerinstitute.org/sites/shanker/files/Bridging_Gap.pdf
- **Teaching Lab**
  http://www.teachinglab.org/
- **Kenowa Hills Lab**
  https://knowledgeworks.org/resources/approach-professional-development-support-personalize-learning/
- **PEBC Lab Classrooms**
  https://www.pebc.org/approach-to-teacher-learning/
- **Lesson Study**
  http://www.americanradioworks.org/segments/a-different-approach-to-teacher-learning-lesson-study/

- **Denver Public Schools Imaginarium Communities of Practice**
  https://imaginarium.dpsk12.org/opportunity/community-of-practice

Case Study: Kettle Moraine School District

- **Ten-Part Series**
  https://www.competencyworks.org/case-study/kettle-moraine-where-the-future-of-education-is-being-created-student-by-student/?x=0&y=0&_sf_s=kettle+moraine+.+++#more-16917

- **Learning Continuum**
  http://digitalpromise.org/wp-content/uploads/2017/04/Kettle-Moraine-Moving-Students-Forward-on-a-Learning-Continuum.pdf

- **Practicing What They Preach: Micro-Credentialing at Kettle Moraine**
  https://www.competencyworks.org/case-study/practicing-what-they-preach-micro-credentialing-at-kettle-moraine/

- **Watch videos about Kettle Moraine's micro-credential program at the district's Future Ready site.**
  https://www.kmsd.edu/futureready

8 - Develop Meaningful Systems of Assessments and Evaluation

- **Student Performance Assessment**
  https://scale.stanford.edu/student/assessment-system

- **Teaching Performance Assessment**
  https://scale.stanford.edu/teaching/assessment-system

- **Threshold Concept: Assessment Literacy**
  https://www.competencyworks.org/understanding-competency-education/threshold-concept-assessment-literacy/?x=0&y=0&_sf_s=assessment

- **New York Performance Standards Consortium**
  http://www.performanceassessment.org

- **Assessment for Learning Project**
  https://www.assessmentforlearningproject.org/

- **Assessment for Learning Project: Rethinking Assessment for Deeper Learning**
  https://www.inacol.org/wp-content/uploads/2016/08/iNACOL-Aug-Leadership-Webinar_ALP.pdf

- **Rethinking Systems of Assessments and Building Educator Capacity**
  https://www.inacol.org/wp-content/uploads/2016/10/October-L-Webinar-reduced.pdf

- **The Innovative Assessment Pilot**
  https://www.inacol.org/wp-content/uploads/2018/01/Innovative-Assessment-Pilot-Jan-2018-Webinar.pdf

- **Rethinking Teacher Evaluation for the Competency-Based Grading and Reporting Environment**
  https://www.competencyworks.org/reflections/rethinking-teacher-evaluation-for-the-competency-based-grading-reporting-environment/?x=0&y=0&_sf_s=teacher+collaboration

- **Multiple Measures Data and Reporting in Vermont and California**
  https://www.inacol.org/news/multiple-measures-data-and-reporting-in-vermont-and-california/

- **Setting the PACE: Teacher Assessment Practices in a Competency-Based Education System**
  https://www.competencyworks.org/insights-into-implementation/setting-the-pace-teacher-assessment-practices-in-a-competency-based-education-system/?x=0&y=0&_sf_s=assessment

9 - Establish Structures for Distributed Leadership and Collaboration

- **Collective Leadership Blog**
  https://www.teachingquality.org/blog/collectiveleadership2018/

- **Teacher Collaboration Practices**
  https://practices.learningaccelerator.org/search?query=teacher+collaboration

- **Curriculum Camp**
  https://www.youtube.com/watch?v=oJXlejAk1NU&index=2&list=PLaXzAQwtzpj7ci5Qc2D-tQmElf-yZx6pq

- **Distributed Leadership at Kettle Moraine**
  https://www.competencyworks.org/case-study/distributed-leadership-at-kettle-moraine/

- **10 Principles to Move Your School Toward Distributed Leadership**
  https://www.competencyworks.org/reflections/10-principles-to-move-your-school-toward-distributive-leadership/

- **4 Things to Know about Distributed Leadership**
  http://k12education.gatesfoundation.org/blog/4-key-things-know-distributed-leadership/

- **Teacher Collaboration in a Competency-Based Learning Environment**
  https://knowledgeworks.org/resources/teacher-collaboration-cbe/

- **Stop, Collaborate and Listen! To Enhance Personalized Learning**
  https://www.edelements.com/blog/stop-collaborate-and-listen-to-enhance-personalized-learning

Case Study: Tri-County Early College

- **Tri-County Early College**
  https://www.tricountyearlycollege.org/

- **MasteryConnect**
  https://www.masteryconnect.com/

10 - Innovate with Focused Experimentation and Learning

- **State Innovation Zones: Creating Policy Flexibility for Personalized Learning**
  https://www.inacol.org/wp-content/uploads/2016/03/iNACOL-InnovationZonesIssue-Brief.pdf

- **School District Innovation Zones**
  https://www.bridgespan.org/insights/library/education/district-innovation-zones-and-economic-mobility
- **Improvement Science Tools**
  https://www.carnegiefoundation.org/resources/tools/
- **Hiring Innovative Staff**
  https://imaginarium.dpsk12.org/resource/hiring-process-for-innovative-teaching-staff
- **Center for Teaching Innovation**
  https://teaching.cornell.edu/
- **State: Kentucky Districts of Innovation**
  https://education.ky.gov/school/innov/pages/districts-of-innovation.aspx
- **State: Rhode Island Office of Innovation**
  https://www.innovate.ri.gov/
- **District: Denver Public Schools Imaginarium**
  https://imaginarium.dpsk12.org/
- **District: New York City iZone**
  http://izonenyc.org/

Case Study: Dallas Independent School District

- **Innovation in Teaching Fellowship**
  https://www.thepltoolbox.com/fellowship.html
- **Design Thinking**
  http://scpd.stanford.edu/ppc/design-thinking-courses-workshops-and-programs?utm_source=google&utm_medium=ppc&utm_term=designthinking&utm_campaign=DT&_vsrefdom=Adwords-Other&gclid=Cj0KCQjwk_TbBRDsARIsAALJSOZ5G6WChvb6_HCZeQDNSg4E6EDEouisxJPnHxDDrJtu8_OOGLf0ulkaAptkEALw_wcB

11 - Diversify Pathways Into the Profession

- **Teacher Pathway Project**
  http://cepa.stanford.edu/tpr/teacher-pathway-project-old
- **Diversifying the Teacher Workforce with Grow Your Own' Programs**
  https://www.newamerica.org/education-policy/edcentral/diversifying-teacher-workforce-grow-your-own-pathways/
- **TNTP Teaching Fellows**
  https://tntpteachingfellows.org/
- **RootsLA Teaching Pathway**
  https://tntpteachingfellows.org/los-angeles
- **Pathways2Teaching**
  http://www.pathways2teaching.com/
- **Harvard Teacher Fellows**
  https://htf.gse.harvard.edu/

12 - Redesign Educator Preparation

- **Worlds Colliding or Aligning: Teacher Preparation During Educational Transformation**
  https://www.competencyworks.org/reflections/worlds-colliding-or-aligning-teacher-preparation-during-educational-transformation/?x=0&y=0&_sf_s=teacher+collaboration
- **Shaking up Credentialing: An Emergent Strategy**
  https://www.2revolutions.net/blog/mastersincbe
- **Reinventing Teacher Preparation Today for the Classrooms of Tomorrow**
  https://www.advanc-ed.org/source/redesigning-teacher-preparation-today-classrooms-tomorrow
- **Learners First: How Educators Hone Their Craft**
  http://remakelearning.org/wp-content/uploads/2018/10/Learners-First.pdf

Case Study: Dallas Independent School District

- **2Revolutions**
  https://www.2revolutions.net/
- **Southern New Hampshire University**
  https://degrees.snhu.edu
- **NHDOE Vision 2.0**
  https://www.education.nh.gov/documents/nh-vision.pdf

Case Study: Virginia

- **Profile of a Virginia Graduate**
  http://www.doe.virginia.gov/instruction/graduation/profile-grad/
- **High School Program Innovation**
  http://www.doe.virginia.gov/administrators/superintendents_memos/2017/118-17.shtml
- **Performance-Based Assessments**
  http://www.doe.virginia.gov/testing/local_assessments/index.shtml
- **Jobs for the Future**
  https://www.jff.org/
- **College of William and Mary**
  https://www.wm.edu/

13 - Diversify Pathways Through the Profession

- **The Decade-Plus Teaching Career: How to Retain Effective Teachers through Teacher Leadership**
  http://www.teachplus.org/sites/default/files/publication/pdf/decade-plus_final.pdf
- **Designing Career Ladder Programs for Teachers and Principals**
  https://www.engageny.org/sites/default/files/resource/attachments/designing_career_ladders_for_teachers_and_principals.pdf
- **Teach +Plus**
  https://teachplus.org/

- **Opportunity Culture: Extending the Reach of Excellent Teaching**
  http://opportunityculture.org/
- **Charlotte Mecklenburg Project L.I.F.T**
  https://opportunityculture.org/reach/case-studies/
- **Denver Public Schools Teacher Leadership and Collaboration**
  http://thecommons.dpsk12.org/Page/147
- **Leading Educators**
  http://www.leadingeducators.org/whatwedo

14 - Redesign Credentialing and Certification

- **Making Educator Professional Learning Personalized and Competency-Based Through Micro-Credentials**
  https://www.inacol.org/news/making-educator-professional-learning-personalized-and-competency-based-through-micro-credentials/
- **Micro-Credentials: Personalizing Professional Development for Educators**
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- **A Movement Towards Personalized Professional Learning: An Exploration of Six Educator Micro-credentialing Programs**
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- **Micro-credentials: Igniting Impact in the Ecosystem**
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- **Kettle Moraine; Micro-Credentials**
  https://www.kmsd.edu/cms/lib/WI01919005/Centricity/Domain/240/KMSD%20MC_Flyer.pdf
- **Micro-credential Case Studies**
  https://digitalpromise.org/initiative/educator-micro-credentials/video-case-studies/

Case Study: Baltimore County Public Schools

- **Department of Innovative Learning**
  http://dci.bcps.org/department/innovative_learning
- **Digital Promise**
  https://digitalpromise.org/
- **Digital Promise library**
  https://microcredentials.digitalpromise.org/explore
- **Towson University**
  https://www.towson.edu/

15 - Redesign Accountability for Reciprocity and Improvement

- **Accountability's New Frontier: Innovation From the States**
  https://www.edfunders.org/sites/default/files/Case%20Study_Accountability_2016.pdf
- **Performance Assessment of Competency Education (PACE), New Hampshire**
  https://www.education.nh.gov/assessment-systems/pace.htm

- **New Hampshire Performance Assessment Network**
  https://www.education.nh.gov/assessment-systems/
- **New Hampshire's PACE Assessments: Transforming Assessments and Learning from the Ground Up**
  https://www.ncld.org/wp-content/uploads/2017/07/PACE.Case-Study.Fin_-1.pdf
- **Reciprocal Accountability for Transformative Change: New Hampshire's Performance Assessment of Competency Education**
  https://files.eric.ed.gov/fulltext/EJ1148461.pdf
- **California Core Districts**
  https://coredistricts.org/
- **Continuous Improvement and Accountability**
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- **What a Continuous Improvement Accountability System Needs to Do**
  https://www.advanc-ed.org/source/what-continuous-improvement-accountability-system-needs-do
- **Why Next Generation Accountability for Improvement is Important**
  https://www.inacol.org/news/next-generation-accountability-continuous-improvement-important/

Case Study: Baltimore County Public Schools

- **Statewide Approach to Continuous Improvement**
  https://education.vermont.gov/vermont-schools/education-quality-assurance
- **Improvement Science**
  https://www.carnegiefoundation.org/our-ideas/six-core-principles-improvement/
- **Education Quality Standards**
  https://education.vermont.gov/sites/aoe/files/documents/edu-state-board-rules-series-2000.pdf
- **Education Quality and Continuous Improvement Framework**
  https://education.vermont.gov/sites/aoe/files/documents/edu-education-quality-and-continuous-improvement-framework.pdf
- **Continuous Improvement Video**
  https://www.youtube.com/watch?v=ETWVbQ6oUxw&feature=youtu.be
- **Improvement Driver Diagram**
  https://education.vermont.gov/document/edu-driver-diagram
- **Improvement Fishbone Diagram Template**
  https://education.vermont.gov/documents/edu-fishbone-diagram-template
- **Continuous Improvement Plan-Do-Study-Act Template**
  https://education.vermont.gov/documents/edu-continuous-improvement-pdsa-worksheet
- **Integrated Field Review**
  https://www.youtube.com/watch?v=2jsTrbxZiGs&list=PLaXzAQwtzpj4BV62FEi0YQrM450Gb19gF#action=share

About the Author

Katherine Casey is Founder and Principal of Katherine Casey Consulting, an independent organization focused on innovation, personalized and competency-based school design and research and development. Katherine was a founding Director of the Imaginarium Innovation Lab in Denver Public Schools, supporting a portfolio of almost 30 schools across Denver and spearheading the Lab's research and development activity. Katherine was a founding design team member at the Denver School of Innovation and Sustainable Design, Denver's first competency-based high school. Prior to her time in Denver, Katherine worked in leadership development, philanthropy, public affairs and higher education. She received her BA from Stanford University and her Doctorate in Education Leadership from Harvard University. Her dissertation, titled "Innovation and Inclusion by Design; Re-imagining Learning, Remembering Brown," explored the intersection of school design and integration in Denver.