From Theory to Practice

Cross-State Themes in
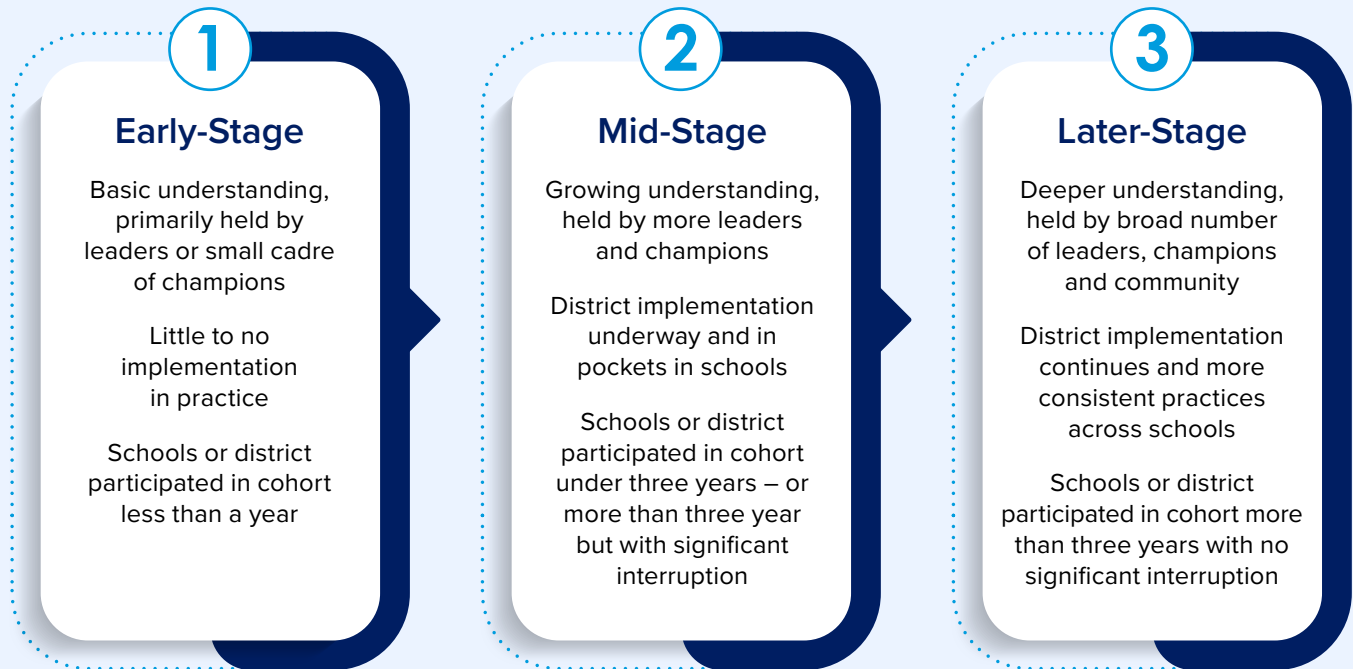Student-Centered Systems Change

Contents

Introduction

Across the country, states and districts are turning to student-centered systems change to better prepare each student for a successful future. Since 2017, KnowledgeWorks has worked with more than 500 state and district partners in more than two dozen states as they transform to a personalized, competency-based approach. In four of these states – Arizona, North Dakota, Ohio and South Carolina[1] – state and district leaders have committed to large-scale efforts that impact core district functions, serve multiple districts and offer state-level supports.

External evaluators have been examining how conditions, structures, mindsets and behaviors are changing in these states over time. While it takes years to see significant results for individual students, documenting key conditions helps us understand and predict progress along the way. Implementation in each state is too divergent for cross-state statistical analysis. Still, emerging themes, patterns and timelines for these large-scale efforts are ripe for investigation.[2] An earlier research report commissioned by KnowledgeWorks, *From State Commitment to District Implementation: Approaches and Strategies for Personalized, Competency-Based Learning*, deeply considered the states' policy contexts.[3] This report focuses on district and school implementation. It contributes to the broader understanding of implementing personalized, competency-based learning at a systems level in Arizona, North Dakota, Ohio and South Carolina.[4]

By examining four states implementing major education transformation with aligned purposes, a shared technical assistance provider and using the same conceptual framework,[5] we shed light on the factors that influence the success and sustainability of these innovative approaches and share lessons learned for effective integration in diverse educational contexts.

The contributions of this report are two-fold. First, for those interested in large-scale personalized, competency-based learning implementation, this report adds further detail to the roadmap first sketched out in *From State Commitment to District Implementation*.[6] Second, for those interested in large-scale education systems

Figure 1. Stages of Large-Scale Implementation

1

Early-Stage

Basic understanding, primarily held by leaders or small cadre of champions

Little to no implementation in practice

Schools or district participated in cohort less than a year

2

Mid-Stage

Growing understanding, held by more leaders and champions

District implementation underway and in pockets in schools

Schools or district participated in cohort under three years – or more than three year but with significant interruption

3

Later-Stage

Deeper understanding, held by broad number of leaders, champions and community

District implementation continues and more consistent practices across schools

Schools or district participated in cohort more than three years with no significant interruption

Stages of implementation refer to timing and breadth of the work, not depth or quality.

reform more generally, the paper introduces the lens of systemic personalized, competency-based learning. While there is a rich history of studies of district reform and education systems reform, there are few, if any, that consider personalized, competency-based learning as the conceptual framework at a systems level.[7]

In *From State Commitment to District Implementation*, Duffy and Eddins[8] detail the policy and state-level contexts that catalyzed change in four states. This paper picks up from 2021 when their data collection ended, adding data through the end of 2023 with a focus on district and school implementation, rather than state and policy contexts. Due to shifts in the states' work scope, this piece looks at three of the original states – Arizona, North Dakota and South Carolina – and adds a new state, Ohio. The analysis in this report comes from a large array of primary and secondary materials collected and analyzed by external research and evaluation teams for each state. These include interviews, focus groups, observations, school walk-throughs and document analysis. In addition, we refer to the results of implementation surveys administered annually to participating schools and districts.

Overview of Personalized, Competency-Based Learning and Large-Scale Implementation

Through personalized, competency-based learning, learners have voice and ownership over how, what, when and where they learn – and connections to community and real-world experiences are a priority. Students learn actively using different pathways and varied pacing that does not result in tracking or other forms of ability grouping. The core elements of personalized, competency-based education – engaging educational experiences, focus on learners' needs, assets and voice, connections to real-world experiences, emphasis on readiness and de-tracking – have a substantial body of research and evidence supporting their efficacy in closing opportunity gaps and producing more equitable outcomes.[9]

KnowledgeWorks offers supports and services for state and district personnel engaged in the effort. State supports include state policy assessments and innovation recommendations, working group facilitation, legislative tracking and technical assistance with policy implementation.

The focus of this analysis is the tiered set of services offered by KnowledgeWorks for educators, schools and districts at different stages of personalized, competency-based learning implementation and expansion. The tiers are referred to as Explore, Launch and Transform.

» **Explore cohorts** receive a variety of easily accessible learning opportunities and resources that can be utilized, such as site visits and on-demand virtual resources. Topics vary depending on needs and may include an introduction to personalized, competency-based learning, student-centered practices and a culture of innovation.

» **Launch cohorts** consist of schools within Transform districts or in districts that are starting their personalized, competency-based learning journey. These schools receive coaching focused on practices immediately applicable at the school- and classroom-level.

» **Transform cohorts** consist of districts focused on full-system redesign and include a design team of a diverse set of local education stakeholders. Each Transform cohort receives coaching services, tools for implementation, asset mapping, action plans and advocacy support for policy changes that enable and support personalized, competency-based learning at the state and local levels. Key areas of focus include the development of leadership capacity, change management, communication strategies and the development of a district vision for student learning. Transform districts serve as exemplars — hosting site visits, learning labs, sharing knowledge and resources and participating in research and case studies.

We define large-scale as three or more districts per Transform cohort, implementing comprehensive change with ten or more schools, with some state-level involvement and the goal to reach at least 10% of the overall student population in the state. In 2023, there were 133,630 students in Transform cohorts and Launch schools. In other words, large-scale is defined as breadth and depth: the number of individuals involved and a commitment to change structural and cultural norms of entrenched traditional systems.

Overview of State Efforts

ARIZONA[10]

The Center for the Future of Arizona developed the Arizona Personalized Learning Network, a cohort of four districts that made a five-year commitment to shift to a personalized learning approach: Amphitheater Public Schools, Mesa Public Schools, Santa Cruz Valley Unified School District No. 35 and Yuma Union High School District. District leaders in the Arizona Personalized Learning Network participate in planning, coaching and school implementation efforts and receive personalized support from the Center for the Future of Arizona and KnowledgeWorks. In 2022 a coaching cadre and Launch cohort were added, deepening the support for Transform districts.

OHIO[11]

With support from the Ohio Department of Education and Workforce (formerly the Ohio Department of Education), Ohio Educational Service Centers, regional personalized learning specialists and KnowledgeWorks, the Ohio Personalized Learning Network connects educators, schools and districts to professional learning focused on helping local communities expand systems and approaches that center the individual needs of every learner. The Ohio Personalized Learning Framework is the foundation for the implementation of personalized learning in the districts and schools across the state participating in the network. Started in 2022 and eventually reaching close to 100 Launch schools, the work deepened in 2023 in six districts that comprise the first Transform cohort: Kings Local School District, Mason City School District, Perry Local School District, Riverside Local School District, Tallmadge City School District and Twinsburg City School District.

NORTH DAKOTA[12]

The North Dakota Network for Personalized Learning is supported by the North Dakota Department of Public Instruction, KnowledgeWorks and other partners. Participating school districts have made a commitment to personalized, competency-based learning through changes to both policy and instructional practice and are being assessed for impact. Districts in the study are Northern Cass Public Schools, Oakes Public Schools and West Fargo Public Schools.

SOUTH CAROLINA[13]

The South Carolina Department of Education established an Office of Personalized Learning (now the Personalized Learning Team) which created a state-level Framework for Personalized Learning to support all students in achieving the Profile of the South Carolina Graduate. The Personalized Learning Team and KnowledgeWorks are supporting schools and districts across the state in their implementation of personalized, competency-based learning; to date, schools in close to 90% of districts have engaged with the Personalized Learning Team since its inception six years ago. Additionally, York County School District 2, Lexington County School District 3 and McCormick County School District are three Transform districts, known as Lighthouse districts in South Carolina. These three are continuing to work with the Personalized Learning Team and KnowledgeWorks to build structures and supports to enable personalized, competency-based learning in schools and classrooms.

Table 1. Overview of States Involved in Large-scale Personalized, Competency-based Learning

State *External Evaluator*	Starting Year*	State-level involvement and funding	Districts involved	Student demographics across primary district participants
Arizona *Research for Action*	2019	State-level effort supported by Center for the Future of Arizona, All-State Foundation grants and governor's budget	**Transform:** 1 large, 2 medium, 1 small district **Launch:** 12 schools in early-stage efforts	2% - Asian 4% - Black 68% - Hispanic 3% - Native American 24% - White 2% - Multiple races 14% - Special Education 59% - Impoverished 11% - English language learners
Ohio *EdResearch Solutions*	2022	Ohio Department of Education and Workforce, Elementary and Secondary School Emergency Relief Programs funds	**Transform:** 1 medium, 5 small **Launch:** 79 schools in other districts participating in early-stage efforts	16.5% - Asian 7.2% - Black 6.3% - Hispanic 0.1% - Native American 64.3% - White 5.3% - Multiple races 12.6% - Special Education 16.7% - Impoverished 8.4% - English language learners
North Dakota *WestEd*	2017	North Dakota Department of Public Instruction, Bush Foundation	**Transform:** 1 large, 2 small	2.5% - Asian 7% - Black 5% - Hispanic 3% - Native American 85% - White < 1% - Multiple race 11% - Special Education 19% - Impoverished 4% - English language learners
South Carolina *Riley Institute, Furman University*	2018	South Carolina Department of Education, state and foundation grants	**Transform:** 2 medium, 1 small **Launch:** Approximately 60 other districts participating in various related efforts over time	2% - Asian 40% - Black 8% - Hispanic 1% - Native American 47% - White 5% - Multiple races 5% - Special Education 61% - Impoverished 5% - English language learners

*Year personalized, competency-based learning state-wide initiative began.** In each state, some work began before the state-wide launch dates shown here. The state-wide date represents the start of the comprehensive, multi-district, multi-year, cohort-based efforts supported by KnowledgeWorks.

Context: A Pandemic and Challenges to Equity Agendas

The four states each shared two major contextual factors during their initial years of implementation: the COVID-19 pandemic and national backlash against prioritizing equity in education reform efforts.

Implementing large-scale change during a pandemic

Responses to the COVID-19 pandemic shut down most public spaces and severely limited in-person interactions, precipitating an abrupt pivot to virtual modalities of engagement for schools. It also necessitated a drastic shift in educational approaches and tools. The massive demand to rethink teaching and learning brought on challenges and opportunities for districts and schools, each at different stages of personalized, competency-based learning implementation. Educator survey respondents in South Carolina mentioned that the "pandemic significantly impacted their ability to successfully implement personalized, competency-based learning strategies in the classroom."[14]

Meanwhile, some districts found the transition to personalized, competency-based learning helped their problem-solving abilities, more easily identifying opportunities to innovate amidst the unprecedented period of reconfigured habits to establish a "new normal." Some district leaders from North Dakota noticed an acceleration of personalized, competency-based learning implementation as previously resistant educators began to see value in the newly adopted teaching and learning practices.[15] It will take time for the full extent of pandemic effects on education to come to light, but experiences reported from schools and districts implementing personalized, competency-based learning in these four states reveal a nuanced story of both setbacks and progress.

Challenges of pursuing equity in a highly charged political landscape

In transforming systems and scaling personalized, competency-based learning, KnowledgeWorks is committed to equitable outcomes for all learners. In their report, Duffy and Eddins[16] identified several themes connected to equity at the district level:

» District respondents struggled to define equity

» Most district respondents described the contributions of personalized, competency-based learning to equity in terms of meeting the needs of individual students and giving teachers the tools to address these needs

In some states, the term equity has been "hijacked" since the Duffy and Eddins[17] report, as one respondent in Arizona described it. Since 2021, at least eight bills were introduced in the four states that included anti-critical race theory/anti-equity language. These bills aimed to prevent schools from teaching topics connected to race or racism; using textbooks, instructional materials or curriculum that "promotes any divisive or inherently racist concept;" or discussing certain topics related to sex and sexuality. Of these, one passed in North Dakota, another passed in Arizona but was later deemed unconstitutional in the state supreme court, and the rest failed. Around half of district leaders report that community and system disagreements about race, sexuality, gender and COVID-19 are disrupting schooling and even resulting in

direct threats to staff members.[18] Though school board elections are not shifting quite as much as perceived, polarizing conversations are still prevalent.[19] Whether bills are passing or school board elections are swinging, there is no question that school systems are navigating a highly politicized climate. As a result, many district administrators struggle to adopt clear definitions of equity in learning and its connections to personalized, competency-based learning.

> "Wax on, wax off; make slow, intentional progress while using the pandemic to our advantage. Any COVID-19 problem was solved with a personalized, competency-based learning approach…but without saying that!"
>
> **— Arizona District Administrator**

Defining equity is highly contextualized to the specific district and there is great variation across districts, even within more conservative states. For example, a small district had no equity definition for the district, and respondents reported that "inequity was not a concern given the perceived homogeneity of their learners and community."[20] A larger district in the same state requires an Equity 101 course for all staff to set common language and expectations.[21] Similar patterns emerged in the other states, even when the population was made up almost entirely of youth from socio-economic and racially marginalized populations.

For example, the public web pages, mission/vision and strategic plans of the larger districts in the Transform cohorts in Arizona, North Dakota and Ohio all contain explicit mentions of equity and the strength of cultural diversity, whereas the smaller, more homogenous districts refer broadly to educational excellence for all and empowering every student.[22] While needing further study, these observations appear to imply that larger districts with more diverse populations are

more likely to pay explicit attention to defining equity than smaller districts with perceived uniformity among the learner population, regardless of formal policy considerations.

More recent evaluation reports and respondent data reflect virtually the same findings as Duffy and Eddins[23] in terms of equitable outcomes and educator perceptions about personalized, competency-based learning and its ability to recognize and meet the needs of each learner. In practice, this seems to be largely confined to academic needs and offering learners choice in academic assignments or pacing. Across states, there are broad discrepancies between educators and students as to whether personalized learning is helping address students' cultural, social and emotional identities and well-being — areas that have been shown critical to the learning experience.[24] For example, only about half of the students across the four states "strongly agree" or "agree" that they learn about what to do if they encounter discrimination; whereas 70% or more of learning facilitators report they talk with students about what to do if one encounters discrimination.[25]

Demonstrating the complexity of these issues, a school leadership team in a North Dakota community described a learner-written and -run school play in which the gender of the characters was ambiguous. Leaders discussed potential responses from the community and determined that the play should remain as written because it was learner-generated and the learners demonstrated leadership, responsibility and advocacy.[26]

> The evaluations and examples illustrate that overall, the districts and states continue to see personalized, competency-based learning primarily as a way to meet students where they are academically while embracing more of a learner's interests.

Even with this attempt at a neutral approach, a gap remains between educator and student perception. For example, within one state, researchers found one district showed a clear connection between personalized, competency-based learning and ensuring equity across the district, developing decision-making protocols to explicitly consider marginalized groups; whereas other communities in the state had no mention of these connections.[27] This trend continues in more ethnically and racially diverse districts in other states, where connections between personalized, competency-based implementation and its potential impact on historically marginalized learning communities are absent.

Themes and Findings

Building from the larger contextual elements and background of each state, we developed a potential list of themes using an initial read of the major reports from each state. We then vetted these themes and their sub-themes with internal and external experts who are closest to the work. From there, we began to build sets of evidence, which helped to strengthen our understanding in certain areas and propelled us to sideline other themes where the evidence was weak. Sets of evidence included a review of external evaluator reports from each state, interview and focus group data, annual implementation survey data and presentation artifacts. A more detailed methodology is explained in the Appendix.

The central themes of large-scale personalized, competency-based learning implementation that emerged include:[28]

» **Time and timing:** Expectations from each stage of implementation and optimizing sequence of activities to support systems-level change

» **Personnel turnover:** Consequences of leadership change and staff/educator turnover

» **Trust, vision and buy-in:** Recognizing and positioning relationships as a foundational part of implementation

» **Adult and learner agency:** Effects of implementation components in fostering adult and learner agency and the inherent dynamics between these different groups

» **Sustaining large-scale change:** Establishment and mainstreaming of key implementation components to ensure the long-term viability of personalized, competency-based learning work

Capacity-building emerged as a critical aspect of nearly every theme. Instead of calling it out as a singular attribute, we weave examples and discussion of capacity building throughout our report.

Time and Timing

Over the past several years, we have learned much more about when we can expect visible and measurable outcomes at different levels of the system as comprehensive personalized, competency-based learning takes shape. Context considerations include district/school size and structure; intensity and fidelity of implementation; and resource allocation priorities. Each district in every state studied has intentionally pursued a path of implementation based on these considerations and what makes sense for scaling and sustainability in their specific context. While that customization of approach makes it difficult to make sweeping generalizations about the timeframe for implementation, this observation is in keeping with the ethos of personalized change.

District size and structure

Although implementation strategies may vary, larger districts have extended implementation duration periods relative to smaller ones. More complex operational and bureaucratic layers often require additional time and resources to bring district proponents on board, establish a shared vision and coordinate implementation efforts. For example, a relatively large district in North Dakota needed to spend close to two years building common understanding among district administrators before the initiative could even reach schools and educators.[29] The variability of uptake between and within schools in larger districts also adds significant complexity to the timing of comprehensive implementation goals.[30] Conversely, smaller districts have been able to go deeper into implementation more quickly, bringing along a wide range of stakeholders within closely coordinated implementation timeframes. As a district administrator from Arizona points out, implementing the plan within all the schools concurrently in a small district can readily show an impact on the district and the learning community in about two years.[31] A similar observation from a relatively small district in North Dakota revealed that most everyone was "touched" by implementation and demonstrated understanding of the efforts after just three years into the initiative, despite pandemic-related disruptions.[32] Overall, district size is surfacing as a significant factor, but one that must be considered in conjunction with other implementation components.

The categorization of small, medium and large districts depends on the state. For example, a district of 8,000 learners may be a small to medium sized district in Arizona, whereas in North Dakota, this district would be characterized as large. Therefore, our analyses and use of these designations does not depend on a universal cut-off or student enrollment number.

Making time in the school calendar

The roles that district administrators, educators and school staff members play in personalized, competency-based learning transformation are critical to the implementation timeframe. Duffy and Eddins[33] found that leveraging existing meeting structures was an important means of capacity building. Stakeholders need adequate time for collaboration, reflection and continuous improvement. Messaging this commitment and providing sufficient resources proves to be critical in establishing a shared vision, buy-in and action.[34]

Two districts in Arizona describe how they were able to create manageable, long-term changes within the established structures of their school year. They refer to a transformation timeline that has stayed "fairly true to the outcomes" and established time for reflection using the KnowledgeWorks implementation resource *Finding Your Path: A Navigation Tool for Scaling Personalized Competency-Based Learning* as a framework to surface evidence of ongoing implementation.[35] One Arizona district also instituted a weekly leadership meeting to include both school and district administrators with a dedicated agenda item on personalized, competency-based learning implementation progress.[36] Another example of leveraging

existing time comes from a North Dakota district that explicitly designated 11 professional development days focused on personalized, competency-based learning implementation on its school calendar.[37] The unrelenting school schedule can often undercut the time and space needed for implementation, calling for vigilance in resource commitment.

Need for staging implementation

There is emerging clarity around the ideal implementation sequence of personalized, competency-based learning that can improve the likelihood of positive outcomes. The shared vision of personalized, competency-based learning implementation is unequivocally an important, if not the most important, early step and is often formalized via a Portrait of a Graduate.[38] This artifact of a shared vision is an effective way to communicate to learners and the learning community that they are critical partners in the system transformation journey. Beyond this initial component, implementation staging highly depends on district and school contexts. The allocation of commensurate time and resources for capacity-building, infrastructure development, culture change and other personalized, competency-based learning components play a pivotal role following alignment and commitment to a shared vision.[39]

> "Change takes time. Big changes take three to five years. While we're in an 'era of now,' we're celebrating incremental growth over time. We are encouraging small efforts over time, investing in mission and vision and excited to see the progress we have made and continue to make."[40]
>
> **— Ohio School Principal**

While staging is important, there is no single best way to do a staged implementation. Strong staging to reach scale is defined by what makes sense for the district's context, such as in Ohio, where one district took a school-based approach[41] and in Arizona, a similar sized district implemented specific personalized, competency-based learning components across the system. There was a pathway in both instances toward broadening and deepening in stages.[42]

Timing and level of school

The level of school for the initial point of implementation (e.g., elementary, middle school, high school) is thought to be a significant determinant of the speed of uptake, spread and depth of the work across a district.[43]

Cross-state evidence shows that implementation efforts in earlier grades are relatively broader and deeper in scope. A later-stage district in South Carolina has experienced a significant level of commitment as manifested by prominently displayed community shared vision and other personalized learning materials. In contrast, similar artifacts are not widely seen at the middle and high school levels.[44] In North Dakota, despite comprehensive implementation at all levels, stronger evidence of learner agency is observed at the elementary level, more so than in the middle and high school levels.[45] Initial success at going deeper appears more likely at the elementary level.

Nonetheless, emerging findings across at least three states indicate that school structure, district alignment and implementation fidelity are significant components in determining the time needed for roll-out, overshadowing the school level as a determining factor.[46] An Arizona district administrator enthusiastically shared that the comprehensive district-wide uptake was jump-started by an "all-in" commitment of the high school math department, which effectively spread throughout the learning community.[47] These data indicate that while the entry point for the initiative may correspond to depth and consistency of implementation, it does not appear to correlate with how fast the work spreads.

Personnel Turnover

The time it takes to implement a large-scale change effort is significantly impacted by the ability to maintain momentum through change. In smaller districts, turnover can pose challenges, as in the case of a small North Dakota district that espoused a "family culture." In this closely-knit scenario, new staff can face challenges adapting to the culture and aligning their work to a personalized, competency-based learning approach.[48] Turnover and personnel onboarding are guaranteed factors during any multi-year initiative. Two key recommendations to minimize turnover disruptions include deepening the bench – having a large number of well-supported advocates – and paying attention to onboarding.

Deepening the bench

In scenarios where an individual or a small group of individuals are seen as the primary (or sole) champions of an initiative, leadership changes can present significant challenges to implementation efforts. As noted by an educator in South Carolina, it can become a "do it if you want" approach as opposed to an expectation, and the project ends up stagnant.[49] Mainstream strategies to minimize disruptions include pursuing "bench depth" and redundancies for key roles, institutionalizing the fundamental elements of transition (e.g., practices, policies and procedures) and empowering champions at all levels. Recent developments in North Dakota point to the effectiveness of these strategies, as they are helping the district recover momentum after significant leadership turnover. In Arizona, even after leadership changes in four out of five schools in one district, the depth of institutionalization of personalized, competency-based learning implementation efforts enabled proponents to move forward despite these shifts. On the other hand, leadership transitions in a South Carolina district appear to have slowed the pace of implementation.

Deepening the bench is also critical at the educator level. In an Arizona district with a high teacher retention rate (86%), district leaders promote a home-grown approach to educator hiring and development, with one high school's applicant pool consisting of 76% former graduates.[50] A North Dakota district has an established Teacher Leadership Academy that helps develop advocates for the implementation work.[51]

Attention to onboarding

The North Dakota district sponsoring the Teacher Leadership Academy has also established educator development programs from "New Teacher Onboarding" to "New Teacher Bootcamp," which incorporate aspects of the district's personalized learning journey, ensuring guidance for new staff.[52] Another North Dakota district offers a Mentor/Mentee Program and a Personalized Professional Learning Program for new educators. Both programs aim to institutionalize elements of personalized learning. Newer middle school teachers from South Carolina mention that they were introduced to their district's personalized, competency-based learning efforts during their initial job interviews and veteran teachers heard intentional, ongoing messaging from district leadership.[53]

Sustainability considerations, especially as they pertain to changes in leadership and staff, provide the motivation to intentionally plan for inevitable turnover. As a sustainability strategy, leaders are now pursuing measures to strengthen personalized, competency-based learning procedures.[54]

Adult and Learner Agency

School districts often begin their personalized, competency-based learning journey by increasing agency among educators and students. As WestEd evaluators describe, "Agency, as a condition, is easy to see in action and is easy for individual educators to practice before scaling to a whole school or district."[55] Perhaps best summarized by a first grader in Arizona, "I can learn so many things when I choose them and when I like what I am doing and learning."[56] Research from the four states reveals a nuanced picture of increasing agency over time and differences between educator and student experiences of agency.

> In education settings, having agency involves behaviors such as having a say (voice) and decision-making power (choice) about matters pertaining to one's learning and teaching; meaningful input on goal setting, development and pathways; and a sense of efficacy and control about issues that directly impact oneself. Agency in education for both educators and learners has been shown to be inextricably linked with learning.[57] It is a core component of a transition to a personalized, competency-based system.

Early-stage districts and agency

Early-stage efforts for both students and educators include intentional scaffolding and building relationships. Both educators and students initially struggle with a transition from the traditional systems to one that is more collaborative and provides more autonomy. For educators, building relationships with coaches or the administration must be combined with personalized guidance and opportunities to try new approaches, see the work in action and celebrate wins.

In Arizona, a district coach described working with a teacher to offer more voice to students while improving academic outcomes:

> "Students wrote a reflection on the process and mostly every student liked this way of remediation through collaboration." [58]

A coach in another district described how one teacher "felt like he was given something to do but no map on how to do it…Now [after receiving coaching and observing others' classrooms], he feels like he at least has a map and can pick out the path he would like to venture down." [59]

In a third district, administrators "hosted a walkabout, designed for intentional showcasing and then an inquiry lab with our Arizona Personalized Learning Network partners, all as a means of celebrating the quick wins and highlighting progress in the transformation to personalized, competency-based learning."[60] Some early-stage districts approached educator agency by providing general education content and example grading structures. For example, educators could take one of the KnowledgeWorks online introductory modules and then facilitate a discussion on incorporating student voice into grading rubrics for assignments.[61]

> For students, evidence from every state suggests that building trusting relationships with educators is the first step towards larger leaps in agency.

Even with good relationships in place, students may need intentional supports to embrace their voice. In some cases, this was a response to observing "how some students were initially overwhelmed with the prospect of having options and in turn needed more structure and guidance." [62]

Educators in North Dakota describe scaffolding for voice and ownership through early relationship development, such as elementary educators in one North Dakota district that made a practice of going "to a classroom of a grade below them to begin establishing relationships with learners for the next year."[63] A high-school educator in Arizona tried a gradual release of responsibility that involved a reflection-cycle with students to increase agency and quality feedback in one class, then expanded that process into another class with the eventual "goal to implement some project-based learning and providing opportunities for students to take more ownership in the learning and providing more pathways for them to learn the material."[64]

Lastly, in Ohio, the need for an "onboarding runway" was identified for increasing student agency, as shared by a middle-school teacher, I had a couple of kids that were like, 'I don't even know. I don't know where to start.' So I think that's the other piece of [having too much choice or not enough guidance] they're just not [used to it being] personalized. They still need a lot of guidance or a little bit more of the structure work for those kids.[65]

Mid-stage districts and agency

We begin to see a deepening of practices in the second and third years for districts that lay a strong foundation for educator and student agency. In this stage, more educators were "benefiting from increased agency when it comes to their own professional learning."[66] At the mid-stage, educators experience more agency in their own learning paths. A coach in Arizona describes doing student-centered coaching cycles with his teacher mentees, where some are "truly leading the collaborative process and I am following their lead, others need more direction and modeling and are fully receptive to the process. My next steps are to continue the cycles, supporting and encouraging teacher autonomy."[67] In Ohio, instructional coaches are providing spaces where educators can build their voice and choice in building pathways for learning, as one coach explains,

> "Why should [teachers] be receiving the exact same professional development? I plan on diving into... creating a learning progression for teachers for professional development. Teachers are going to see, 'Oh, this actually makes sense and I can apply this to my students.'" [68]

For students, there appears to be discrepancy in how agency shows up at the mid-stage. On the one hand, researchers noted that while classroom teaching practices were largely educator-centered, students nevertheless reported experiencing more "increased flexibility and choice in how they can show their learning."[69] Researchers first observed widespread choice in how to show mastery three years into the initiative in North Dakota, but only around 30% of learners reported these kinds of experiences.[70]

In an elementary school in South Carolina, researchers observed that students at the elementary level were still primarily utilizing early-stage agency implementation tactics, such as choice boards, learning games or project partner selection.[71] Despite the discrepancies across the states, mid-stage districts demonstrate that "more learners, at all levels, were able to describe and give examples of their agency this year, from simple things like choosing between two options as well as choice in showing mastery of standards"[72] and more instances of students taking "accountability for their learning and what they needed."[73] In sum, mid-stage district evidence shows that growth in learner agency is underway but unevenly distributed.

Later-stage districts and agency

As efforts to support agency progress into years three and beyond, educators consistently express that they have choice in their own professional development. Two Arizona districts have revised their approach to professional development to include an Independent Action Research choice, a self-select annual menu of professional development offerings and the ability for educators to set their own annual goals for performance-based assessments aligned to district priorities.[74] In addition, there is increasingly consistent evidence across the states that educators feel more comfortable taking risks on behalf of improving learning. Finally, evaluators found that in later-stage districts "leadership meets regularly with educators and non-certified staff to discuss their concerns and brainstorm solutions."[75]

Researchers in all states note progressive growth on markers of student agency over time. In a South Carolina district, an educator cited evidence of student agency from "their ability to know where they are, their confidence level increased and they don't feel they're behind."[76] However, none of the later-stage districts involved students in co-designing their learning pathways and most did not involve student feedback in decision-making at the school or district level. Initial moves toward this level of student agency can be seen in one North Dakota district pilot where learners are invited to co-design individual learning plans to meet certain standards as a means of catching up.[77] Evaluators found some evidence in this same district that meaningful space for student agency was provided so that "both learners and educators have multiple opportunities for feedback regarding the school and district."[78] And a later-stage Arizona district attempted a "Students as Teachers" approach to give students the opportunity to teach their learning to someone else.[79]

Lag between educator and student agency

In all states there is a lag between the levels of agency educators describe and students experience. Some of the discrepancy is due to the reluctance of adults who are accustomed to a traditional mindset of schooling. As one Arizona coach describes it, getting teachers "to implement choice into lessons so that students can pick the assignments they want to complete [to meet standards]... has been a slow process because choice means 'giving up control.'"

Figure 2. Implementation Stage and Growth in Adult and Learner Agency

Growth in Perception of Agency

■ Educators
■ Learners

Early-Stage District   Mid-Stage District   Later-Stage District
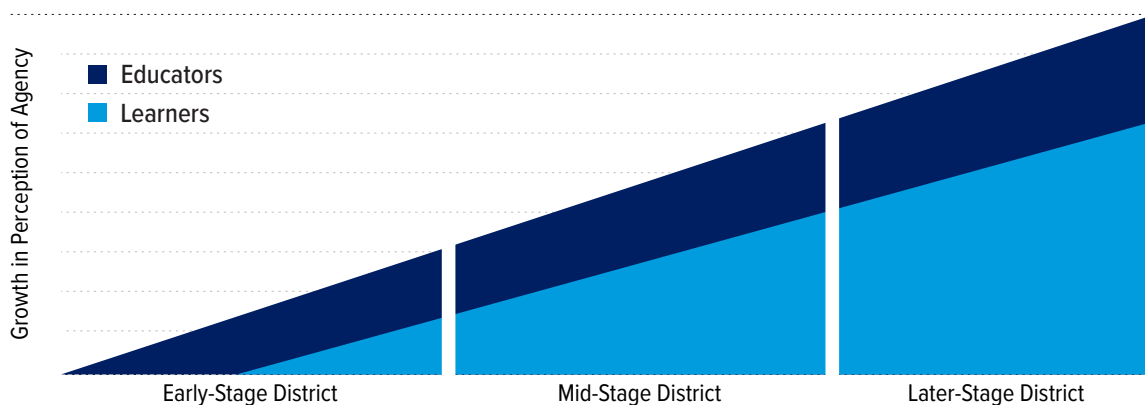
Most teachers do not believe that students will complete the assignments because they 'don't complete assignments now.'"[80] And some of the time lag for student agency to show up is due to the intentional implementation. Research and experience indicate that trusting relationships and shared accountability needs to exist between adults before agency can spread to learners. The implementation scale strategy focuses first on building understanding and agency for the leadership teams who are then empowered to lead the learning, change and supports that reach the classrooms and students.

The first types of agency students experience are opportunities for choice in selecting a project topic and format or whether they will work independently or in a group within a class.[81] Student ability to work at their own pace is reported at a high level and remains high in Arizona, North Dakota and South Carolina — with 70%–82% of educators and students reporting moderate or strong evidence of pacing flexibility.[82] When asked if students get to co-design assignments or have input into how they want to learn versus when, both educators and students responses hover at 30%–41% of those reporting moderate or strong evidence, even in the later stage districts.[83]

Deeper aspects of learner agency are slower to show up, such as having choices in when learners are ready to demonstrate mastery or to engage in cooperative goal-setting. And based on the evidence from later-stage districts, it will be much longer before students are meaningfully incorporated into decision-making about the pathways, polices or district plans.

Trust, Vision and Buy-in

"Change moves at the speed of trust" holds true at all aspects of systems transformation work across schools, districts and states.[84] Agency is a critical condition of large-scale implementation and agency begins with trusting relationships. Intentional relationship building, where mutual trust is nurtured and communication is frequent and transparent has been observed as foundational to this broadly encompassing work that involves diverse stakeholders.

Cascading levels of building trust through the system

At the state level, proponents from the Ohio Department of Education and Workforce commented on the trust and relationship building effort that Personalized Learning Specialists have pursued with schools, effectively opening safe spaces for "innovative practice" that render a large-scale initiative less intimidating.[85] In turn, the Personalized Learning Specialists expressed appreciation for opportunities to closely collaborate with counterparts across the state, attributing progress in the work to everyone's readiness to "help each other."[86]

In Arizona, a district coach shared focused observations on school-based relationships, noting that regular peer observations and coaching cycles help "create relationships between peers throughout the campus." A specific example surfaced in a coaching session where a lead teacher pointed out her implementation concerns and growth areas. This led to a student teacher sharing his own self-assessment of strengths, weaknesses and needed areas of support. Through this and similar exchanges, the district coach recognized the importance of pacing and the use of co-teaching models to carefully nurture trust.[87]

At the classroom level, a study of cohort districts in North Dakota reported an overall strong school culture wherein educators build meaningful relationships with learners and where learners feel that they have caring adults in school who look out for them.[88] A district created a standard of practice where teachers visit the grade below them to lead "learners through a brief overview and activity related to a Portrait of a Graduate attributes…This weekly activity was intended to not only build relationships between educators and learners, but also develop understanding and common language."[89]

Similarly, learners in a focus group from a high-implementing district in South Carolina expressed that teachers will pull them aside to discuss emotional health and wellness and, if appropriate, grant extensions for work assignments if the teacher notices signs of distress. They emphasized the importance of the close, human-centered relationships between most teachers and students.[90] This is not to say personalized learning and trust are seamless companions. Relationship and trust building continue to present nuanced classroom challenges as some educators have found it difficult to build meaningful relationships with unmotivated students. Others have requested further guidance on how to calibrate implementation in different classroom situations, such as those that cater to learners with special needs.

## Shared vision leading to shared ownership

Building trust and shared ownership among parents and the broader community adds additional layers of complexity.[91] The multi-layered tapestry of relationship and trust building underscores the need for transparent communication, alignment, buy-in and the availability of resources from the outset. The Portrait of a Graduate is one of the most palpable indicators of shared vision and its development offers opportunities for building trusting relationships among stakeholders and the broader community. In Arizona, a district description of building their Portrait of a Graduate emphasized the importance of involving stakeholder groups from both inside and outside the district, collecting more than 1,060 survey responses that served as an input to the various components of the portrait. More than 500 teachers, parents and community members and more than 300 students were involved in the design process.[92] Similarly, another Arizona district shared that they facilitated multiple focus groups with students and families as an integral part of their Portrait of a Graduate development process.[93] Multi-year student surveys have shown consistently high levels of Portrait of a Graduate awareness, with the latest student survey showing close to 100% awareness in Arizona, hovering around 80% in South Carolina and North Dakota and in Ohio, the earliest stage state overall, more than 60%.[94]

Awareness is similarly high for educators in South Carolina and North Dakota, with more than 90% of educators indicating awareness.[95]

The Portrait of a Graduate does more than develop a shared language, it creates a means of collaborating with the broader district community. Shared ownership shows up in important procedural changes as well. Each district in the North Dakota cohort eventually moved "from compliance-based processes and procedures to more shared and co-constructed ways of gathering input from learning community members." Most notable is the shared sense of collective efficacy where "educators and learners feel respected and supported and parents feel included."[96] Trust can be tricky to measure, but a district administrator from Arizona noted that their teacher retention rate of 86% is a resounding indication of high levels of trusting relationships.[97]

Figure 3. Student Awareness of Their District's Portrait of a Graduate

100%
Arizona

80%
North Dakota

60%
Ohio

80%
South Carolina
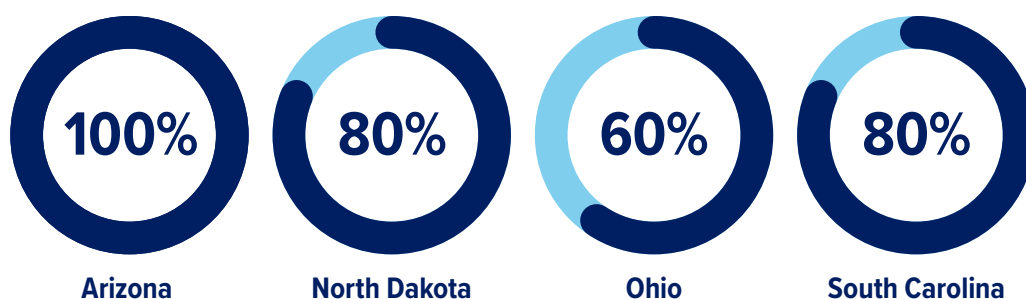
Developing common language

Maintaining a foundation of trusting relationships and building upon those to implement large-scale change requires transparent communications, through all levels of the system and among peer groups and community stakeholders. An Arizona district administrator described the importance of maintaining consistent communication with the school board so that they would be in lockstep with the district's struggles and celebrations. In South Carolina, educators shared that the administrative team is supportive, providing clear scaffolds that allow them to experiment with new ideas and innovations.[98] While supportive, this communication is top-down. Establishing a horizontal alignment of communication is also important. Reports from both Ohio and Arizona highlighted the many benefits of having mixed-role instructional teams, leading to productive planning endeavors to create engaging lessons that foster the learners' sense of wonder and inquiry.[99]

Regardless of the directionality of the communication, consistency is key. Observations from North Dakota noted the use of "systems of inclusive communication" related to personalized learning as one of the most effective tools throughout cohort districts and the larger learning community, with communication and visual artifacts displaying use of shared language.[100] This common language adoption requires vigilance, as observations from Ohio noted the "degree of using similar language" can substantially drop from year to year.[101] One way to sustain communication and foster trust in the broader community was pursued by a South Carolina district through the dissemination of a "Student and Family Friendly Learning Progressions" chart showing each family their student's third and fourth quarter report cards to broaden understanding and acceptance of personalized, competency-based learning approaches and shifts.[102]

Closely connected to developing a common language is the use of a shared framework. The 12 conditions necessary for systemic change as outlined in *Finding Your Path: A Navigation Tool for Scaling Personalized, Competency-Based Learning* by KnowledgeWorks serve as the fundamental framework for personalized, competency-based learning implementation and evaluation. During an educator focus group in South Carolina, a teacher mentioned that a convening held several years prior to their district's implementation period helped introduce educators to basic personalized, competency-based learning concepts, such as choice charts and flexible seating. Another educator who attended a similar training shared that she brought what she learned back to her department and made connections with present classroom practices.[103] An implementation survey in this high-implementing district in South Carolina revealed that a vast majority of teachers "agree" or "strongly agree" that personalized, competency-based learning practices and expected impacts are happening in their classrooms and schools.[104]

Champions at all levels

Community champions are important partners in implementation, often serving as brokers of messaging and support. Two administrators from Arizona mentioned the importance of nurturing champions at different levels, setting up an empowering culture where "not one person" but the collective is imbued with a sense of purpose to build and challenge systems such as through a Portrait of a Graduate.[105, 106]

Ultimately, educators play a pivotal role in implementation efforts. An educator from Ohio said that an integral part of their learning as part of the Launch team is how they, too, can become personalized learning leaders and champion the work at their schools and districts.[107] Or, as a North Dakota administrator says, "We need to point out the champions in the classrooms and the administrative champions that will allow champions to be champions." This same North Dakota district inspires new champions by requiring all educators in the district to attend senior capstone projects, where students invite parents or guardians and a guest community member. Administrators have found this practice reinforces the vision in their Portrait of a Graduate, and often inspires educators previously on the fence. When educators see the student ownership of quality projects, educators become more enthused to help connect community members to district efforts.[108]

Persistent gaps in communication

Implementation experiences across states point to persistent gaps in understanding and perception of ownership between various stakeholders. In North Dakota, for example, districts in later stages of implementation have a high degree of shared language among and between educators. However, that does not necessarily translate into strategic communication efforts that track engagement and understanding among various audiences. Parents in one district noted that while excellent and open communication is in place, it is "focused on using new platforms and not on learning goals and shared values." North Dakota survey data reveals persistent communication gaps between different groups. While understanding among educators was at a consistently high level by year three in North Dakota, researchers found that "transparency with families and communities about personalized, competency-based learning and decision-making can be improved."[109]

Researchers also observed a divergence in how individuals view opportunities for informal leadership and voice in school decisions between educators and non-classroom staff in early-stage districts in Ohio.[110] Based on the North Dakota arc, supplemented with examples from other states, it appears that well-performing and effective communication channels that are established flow from administrators to teachers, learners and eventually parents and community members. Despite success in institutionalizing common language after three to four years of implementation, gaps in strategic under-standing and engagement remain between stakeholder groups.

Sustaining Large-Scale Change

As the work matures, conversations shift from capacity building to sustainability structures, with capacity as only one aspect of a more robust sustainability plan. In addition to reinforcing the need for capacity building, other important tools to build sustainable change include attention to resources, a cadence of continuous improvement, alignment and system coherence.

Structures at the district and cohort level

A district's commitment to personalized, competency-based learning as systemic change begins with integrating its strategic priorities. This integration eventually manifests throughout the district as it is mainstreamed in schools and classrooms. A high school teacher from South Carolina identified the impact of embedding these practices into strategic priorities when students transitioned from middle school to high school and were already familiar with the norms of group work and competency-based learning approaches.[111] In this same district, educators and other school staff members were asked to examine and evaluate critical points in implementation and make adjustments.[112] A later-stage Arizona district shared a multi-pronged approach with others in the Arizona Personalized Learning Network to scale and spread personalized learning through various initiatives and implement standards-based reporting. They are also revamping their teacher evaluation tool and updating the mentor program. They provide resources and support to teachers through the teaching and learning office and offer professional development opportunities. The district also organizes tours and choice sessions for educators to observe and learn from different schools within their district.[113]

Staffing structures

Numerous sources point to the importance of a dedicated person or group of individuals focused on the work and deeply integrated into the district's administrative structure. In their report, Duffy and Eddins[114] noted that design teams were the most common leadership structure for districts and that leadership at the school level was a critical component. While these continue to be central to implementation, instructional coaches, personalized learning specialists and other staffing mechanisms can now be seen as instrumental to sustaining and scaling the work in the four states.

In an Arizona district, the district design team/teaching and learning team supports counterpart school teaching and learning teams, including administrators, instructional coaches, AVID coordinators and teacher leaders.[115] A North Dakota district similarly puts resources in new personalized, competency-based learning positions, including a Director of Personalized Learning, Personalized Learning Coaches and a Director of College, Career and Life Readiness. A relatively small Arizona district has retained positions for instructional coaches distributed among all school sites; "these coaches have received specific, ongoing training in the coaching of personalized learning methodologies."[116] Instructional coaches play an especially pivotal role in personalized, competency-based learning implementation as they closely work with educators to shift teaching and learning practices. While the specific role or structure does not appear correlated with scaling or depth of implementation, the different examples across the states illustrate the need for at least one district person to have explicit job-related responsibility for implementation.

Resources

Significant change is resource-heavy, particularly in the early years. Sustaining large-scale personalized, competency-based change necessitates several formal and informal resources, including:

- » Financial
- » Facilitative policy
- » Designated school staff (such as a Director of Personalized Learning)
- » Materials and tangible examples
- » Time
- » Access to experts
- » Partnerships and networks

The initial years of sustaining transformation in each state came from various sources, often "mixed and matched" in a geography: private funders, pass-through grants from state intermediary organizations, Elementary and Secondary School Emergency Relief (ESSER) Programs funding and state budgets.

Each of the four states has some enabling policy that permits districts to graduate students based on their ability to demonstrate mastery instead of seat time and high school credit. These policies include waivers to incentivize innovative education programs or pilots, or allowances to waive regulations that impede approval of district plans that opened doorways to personalized, competency-based learning.[117]

> Respondents in each state noted how critical the horizontal (within or between schools) and vertical (between schools and districts, statewide leads) supports were to sustaining momentum.

At the state levels, one Arizona district leader described the relationship with the Arizona Personalized Learning Network as "absolutely instrumental in our progress as a district,"; an educator in South Carolina spoke of how the

"South Carolina office of Personalized Learning has provided so many opportunities to both share and receive information"; and a North Dakota school leader shared that the "relationship with the North Dakota Department of Public Instruction is outstanding. We have freedom to try new things and provide feedback."[118]

Continuous improvement

A hallmark of change management and sustaining change is learning and improving over time. Partners from each district are provided with an annual survey of progress, data dashboards and support to make the data meaningful. Districts range from highly-data driven cultures focused on continuous improvement to those with little to no data infrastructure other than those used for compliance. For example, two Arizona districts match their Portraits of a Graduate and missions with measurable outcomes. One even describes using a focus "on building a data-informed culture and implementing personalized learning" complete with task forces and using a "Sheltered Instruction Observation Protocol" as their instructional model.[119]

Even in less data-driven districts, regular touchpoints for calibrating approaches and sharing learning were cited in every state as important to sustain and deepen efforts. These included meetings with coaches, visiting other sites, teacher-led training, coaches deploying learning cycles and structured opportunities to reflect on lessons learned, such as presentations and inquiry labs. Engaging in rounds of community feedback through vision setting and Portrait of a Graduate development was another approach that contributed to sustainability and continuous improvement by both improving the final product and involving many participants in the process.[120]

Figure 4. Alignment and Sustainability
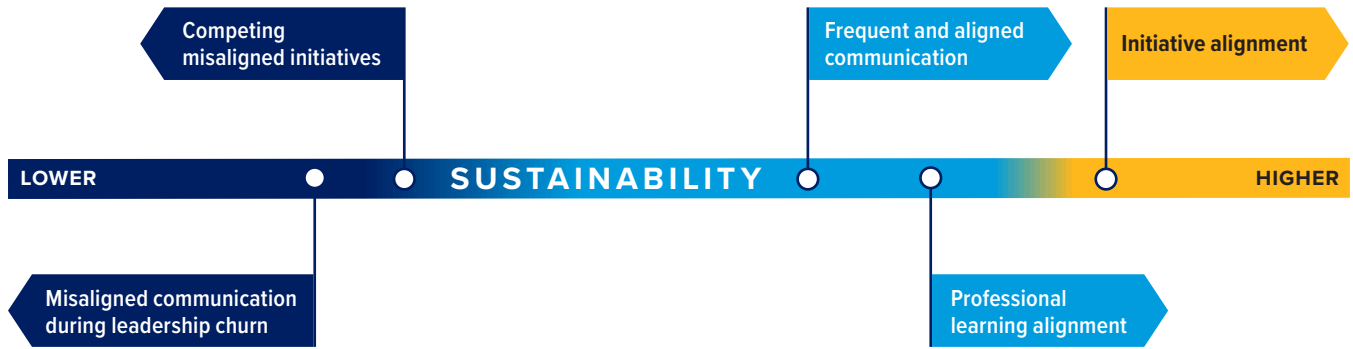
Alignment and coherence

There is a clear connection between the sustainability of large-scale change in education and its ability to be aligned with the district's goals, strategy and formal and informal communication. Literature on school reform is filled with stories of exciting new ideas that failed to take hold because educators saw the initiative as "just one more thing" that would fade away with a change in leadership, budget or new priorities. Every state exhibits evidence of districts incorporating personalized, competency-based learning to build alignment and coherence.

Means to achieving alignment and coherence can take many forms. In Arizona, personalized, competency-based learning was deeply embedded within their Portrait of a Graduate. The roll-out was systematically sent from district leaders and office staff to principals and building administrators. Then staff shared the Portrait with their students using supplied resources. At the same time, the director "held informational meetings with local organizations, business leaders and parent groups to share the document and enlist support."[121] It may also be more informal, as a principal in a medium-sized district in Ohio says, "We communicate all the time. It's not the type of school where I see the superintendent once or twice weekly. It's often. And I see the curriculum director often…the lines of communication are open."

Districts in South Carolina, North Dakota and Arizona all described multiple means to align educators' professional development with personalized, competency-based efforts — offering professional learning opportunities; ensuring annual professional learning goals and assessments aligned to district priorities; and building formal onboarding and orientation procedures for new staff.

Conversely, two respondents in Ohio describe "barriers to sustainability included, but were not limited to, time and competing priorities at both state and local levels." In addition to a substitute teacher shortage, the "big limiters are the other things that are going on in the state."[122] Researchers also point to places like a district in North Dakota where leadership churn resulted in a lack of coherence. This lack of coherence impacted implementation pace and resulted in a back-slide.

Arizona, North Dakota and South Carolina, districts were already on a path to personalized, competency-based learning when alignment "accelerators" helped move the work further or faster. For example, in Arizona and North Dakota, districts were transitioning to standards-based learning and grading — a highly aligned effort — right before the more comprehensive move to personalized, competency-based learning. School staff from a high-implementing district in South Carolina indicated that initiatives that aligned to personalized, competency-based learning

started well before formal implementation began, which significantly helped expedite and sustain the uptake of implementation efforts.[123]

## Progressions toward sustainability

Like early communication and trust-building, part of good change management is setting up for sustainable success at the beginning. Various statewide efforts demonstrate that sustainability activities and mindsets look different at various points throughout the transformation process. Respondents in all states mentioned the need to think about sustainability planning, but to avoid making the effort seem too big and intimidating from the beginning. This need to "right size" was conveyed at the educator, school, district and state levels. For example, a coach in Arizona explains how he started with his Launch Team and then "spread the efforts through PLCs [professional learning communities]." His focus a year later is on "scaling the work. Moving beyond the PLC and getting other early adopters involved."[124]

When change in the schools rolls out too fast, an Arizona district coach explains, "Our team felt like we bit off more than we could chew when we first started working," whereas it "helped when our focus turned back to 'how will this help the students.'"[125] The need to start small and not try to do everything at once is also emphasized by a principal from Ohio: "The team approached the implementation of personalized learning in small steps, noting that it was 'not a huge overhaul of what we're doing.'" Instead, their approach was to be intentional about "understanding the different parts of personalized learning," and acknowledging what they are already doing that aligns with the initiative.[126]

When districts began the move to competency-based assessments and pacing, their first big step was going from traditional grading to a standards-based approach, only then moving to a competency-based approach, as seen in North Dakota, South Carolina and Arizona.

In the early stage, Cohorts in each State took a limited approach to spread and scale, adding complexity and reach over time. This meant small wins with easier-to-implement changes in voice and choice before tackling bigger shifts to grading systems and standards.

As districts transition from mid- to later-stage work, an intentional hand-off can sustain the work once KnowledgeWorks or other key intermediaries ramp-down supports or grant funding runs out. In North Dakota, the longest-running statewide effort, evaluators observed as early as 2021 a "concerted efforts to focus activities and discussions around cross-district collaboration to facilitate the strength of the cohort" rather than rely on KnowledgeWorks as the intermediary.[127] This gradual release of responsibility led first to the district cohort steering committee leading all planning for the 2022-23 school year, including the convenings, site-visits and virtual sessions for the year; and then to year 2023-24 in which the North Dakota-based steering committee is leading the planning for the statewide network.[128]
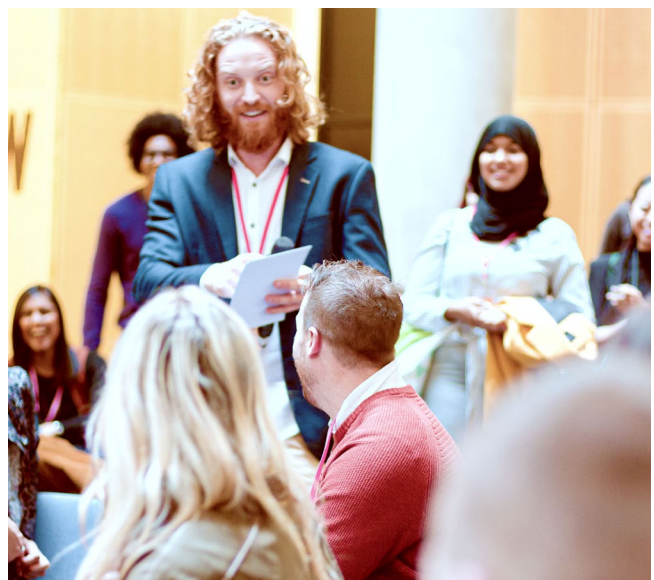
Higher education and a sustainable future

The data sources notably lack mention of substantial involvement or connection to higher education. While that could point to a limitation in the data sources, it nevertheless indicates an absence of higher education from the day-to-day considerations of the educators observed or interviewed. To sustain personalized, competency-based learning on a large scale, meaningful engagement with higher education is imperative. However, such engagement seems fragmented, even in later-stage districts.

A North Dakota district took the proactive step of engaging with every higher education institution in North Dakota and a neighboring state. District leaders discussed why their district's report cards would differ and sought assurances that graduates would be accepted. Yet, these engagements appear one-sided (K-12 leaders taking proactive steps to engage with higher education) and not systemic, reliant on the initiative of individual districts in the cohort.

A South Carolina district is adopting a "wait and see" approach, evaluating if new teacher cadets or interns coming from the local higher education program possess any knowledge of personalized, competency-based learning. In Arizona, a medium-sized district is concentrating on "grow your own" initiatives to address the shortage of teachers equipped for their personalized, competency-based approach. There is minimal mention of supporting partnerships with higher education institutions providing aligned in-service development.

In South Carolina, a respondent mentioned taking courses through a nearby, highly ranked university, where district teachers found themselves guiding professors on personalized methods.[129] While there is a standing Higher Education and K-12 committee for personalized, competency-based learning in South Carlina and partnerships in Arizona with Arizona State University and other institutions, they do not appear to play a prominent role in district or school connections to personalized, competency-based learning.

Conclusions

The diversity of district structures and contexts involved in implementation of large-scale change points to the futility of a "one size fits all" method. Yet despite the diversity in implementation approaches, similar experiences and lessons learned surface themes wherein common strategies can be applied.

As the WestEd North Dakota evaluators summarize: "A systemic implementation of personalized, competency-based learning takes an enormous operational and mindset shift. This includes changing schedules, the grading system and professional learning, as well as changing educator mindsets, stakeholder communication and buy-in."[130]

What we're learning

To establish a shared vision and other district conditions fundamental to personalized, competency-based learning, there must be intentionality in how information is shared and in professional development offerings, as well as a clearly communicated and actionable district strategy. These observations are not new findings on district and state education change; but rather, have been further reinforced by research on personalized, competency-based learning efforts.

In addition to these observations, in this analysis we have detailed a number of other emerging themes for large-scale education change.

A few areas stand out as critical elements for scale:

» **Capacity**: The prioritization of time and space for mutual learning and development is essential. While pull-out time for deepening skills and reflection is helpful, job-embedded learning and using the existing calendar helps minimize the demand on already overburdened educators and school staff members. Systems transformation also requires the integration of roles dedicated to implementing the personalized, competency-based learning.

» **Trust and relationships**: Systems change requires trusting relationships that are bolstered by mutual support as well as frequent and transparent communication.

» **Building for sustainability**: Planning early by deepening the bench of champions and developing on-boarding and recruiting approaches for new leaders and educators doesn't eliminate the challenges of staff turnover, but it does help set the stage for sustainability and success.

In addition, we have learned a number of things connected to the timing of large-scale change:

» **Begin with vision**: Alignment with a shared vision and a firm commitment to executing that vision, even from a small subgroup (e.g. math dept.), needs to lead the way during implementation.

» **Larger district size, longer time**: The larger the district, the longer it will take for systems change to happen and to reach the classroom. Smaller districts can move a major initiative from leadership to implementation in all district schools in two to three years; whereas large districts may need two years devoted to aligning language and priorities at the leadership level.

» **Start small to sustain over time**: A staged implementation effort is more feasible than an "all at once" approach. It leads to larger and more lasting success than overwhelming stakeholders with too much change.

» **Initial school level does not determine speed**: Success at going deeper may be more likely at the elementary school level. However, the initial school level for the start of implementation does not appear to correlate with how fast the work spreads through the district.

» **Order of operations**: Focusing on a common shared vision, educator agency and student agency, in that order, is a strong place to start the journey to personalized, competency-based learning transformation.

And lastly we found that there appears to be a **progression in developing agency for adults and learners**:

» Trust is built among members of the administration, providing educators a safe space to try out opportunities for voice and choices for students.

» Educators experience greater ownership of their own professional development, leading to willingness to expand and deepen the places for students to have choice.

» Administration moves toward educator ownership of their professional development, followed by opportunities for educators to have more voice and input into school or district decision-making.

Progress on recommendations from 2021

Duffy and Eddins laid out several recommendations for districts pursuing a transformation. In Table 2, we provide a snapshot summary of progress along the identified areas.

Table 2. Progress on Recommendations

Recommendation[131]	2019 - 2021 Findings[132]	2022 - 2023 Updates
Set clear goals for the work	District respondents identified lack of shared understanding of short-term results and long-term goals, as well as indicators to measure progress and continuously improve.	Later-stage districts reported high degree of shared understanding and means to measure progress.
Include educators at all levels in the district design teams	Design teams initially did not include all levels of district stakeholders, such as administrators, support staff, principals and teachers; this created a disconnect between schools and educators not included in the process and hindered implementation and scale-uptake.	Design team composition largely remains the same, although staffing elements such as coaches and specialists are prevalent in most areas and more educators are involved via school-based Launch team efforts.
Allow time for teacher orientation and implementation	This large-scale level of implementation reform requires time for teachers to prepare for instruction on a weekly basis and over the long-term through ongoing professional development, implementation and continuous improvement.	Variable allocation of implementation time and space for educators across districts and states. Evidence of institutionalization of onboarding and professional development programs in later-stage districts.
Provide opportunities for classroom observations and reflections	Continue observations with time for peer reflection afterwards, which were identified as an effective way to build teacher capacity.	The value and use of inter- and intra-district and staff visits remain high with Inquiry Labs, cross-site hosting and regular incorporation into the convening curriculum.
Offer both human and material resources to provide ongoing support	Educators require ongoing technical assistance to make shifts of this significance, including instructional coaches that provide customized, district-based supports and lesson plans and templates that can be modified to fit individual classrooms.	Various instructional coach and other personnel structures and protocols are increasingly established and have become a focal point in the provision of both human and material support for educators and non-classroom staff.
Determine an information dissemination strategy that fits existing district structures.	In some cases, information was housed primarily at the district level and was not shared with school administrators and teachers, leading to lack of understanding of what personalized, competency-based learning involves and how to implement.	Disjointed communication efforts are still prevalent, especially in the early-stage efforts, and few more broadly encompassing communication strategies exist. However, high levels of understanding were present in later-stage districts using aligned communication through Portrait of a Graduate, formal and informal vertical and horizontal means and greater reliance on peer-to-peer networking to fill in where there may be strategic communication gaps.
Define equity and how personalized, competency-based learning will support equitable student outcomes	District respondents emphasized that the effort could address issues of equity by helping to meet the needs of each individual student. Districts should consider identifying student achievement gaps and focus their efforts on equity by addressing the needs of student subgroups experiencing those gaps.	Diverse and complex socio-political climates in states and districts result in highly contextualized approaches to equity within districts and learning communities; examining data and targeting certain personalized, competency-based approaches to narrow achievement gaps are largely not pursued, with the "meet the needs of each individual student" perspective remaining predominant.

Areas for further research

Despite a number of emerging lessons learned, each area is still at the level of exploratory theory and requires additional testing and study. In addition, there are still a few areas that call for further basic investigation before we can designate them as themes:

» Higher education appeared largely absent from the conversation. What role are they currently playing, or could they be playing?

» Educators experience agency before students. Does this trend continue over time so that eventually both educators and students have meaningful input into school or district policy? Is there a ceiling for inclusive decision-making?

Finally, further research is needed on the connection between personalized, competency-based learning and equitable outcomes for students. As found in both Duffy and Eddins[133] and our analysis, most educators connect personalized, competency-based learning with the ability to meet students where they are academically while embracing the full learner. This understanding is aligned with equitable outcomes, but not the same as foregrounding equity in design and teaching methods. Another year or two of longitudinal data collection is required to ascertain whether equitable outcomes at the student-level result from these large-scale changes.

KnowledgeWorks

Methods and Closing Materials

Methods

Development of cross-state themes and sub-themes

At the project outset, we reviewed external evaluator reports to surface the initial set of cross-state themes. We then facilitated a vetting process with a group of cross-functional KnowledgeWorks staff familiar with the state work, representatives from our research partners and outside evaluation firms. During this facilitated process, the focus was on refining the major themes, surfacing additional ones and delineating potential sub-themes. No themes were removed at that point.

Following the vetting process, we shared a detailed paper outline to internal advisors for feedback and pursued relevant revision points. Involving key partners and stakeholders, we then formed an external research advisory committee (RAC), representing districts and school partners from Arizona, North Dakota and South Carolina. With this group, we shared a revised detailed outline to RAC members for additional feedback, subsequently addressing further revision points.

Validation of alignment between themes/subthemes and evidence base

We shared the initial paper draft with internal advisors, research partners and external RAC members for feedback and validation of findings. Upon integration of the relevant revision points from initial validation process, we revised the text and moved on to final edits and design. As we approached the closing stages of the project, the dissemination-prepared version of the paper was shared with internal advisors and external RAC members for final review and validation.

Pursuit of evidence base for the themes and sub-themes

Pursuing various data streams with a triangulation mindset, we reviewed numerous and diverse sets of data sources from Arizona, North Dakota, Ohio and South Carolina. These data included evaluation reports, observation memos, convening and coaching artifacts, data dashboards and published articles. These sources are listed in the endnotes of this paper. We then solicited additional data sources from internal advisors and external RAC members. We coded the relevant sections of these data sources to provide evidence of support or divergence from surfaced themes and subthemes. During this process, we used a "rule of three/two." If there were at least three instances of evidence from at least two of the four states, we considered the sub-theme reinforced enough to constitute a finding to report. Otherwise, sub-themes were dropped before the paper drafting stage.

Acknowledgements

Suggested citation: Wolfe, Rebecca E. and Fernando, Rolando II. (2024). From Theory to Practice: Cross-State Themes in Student-Centered Systems Change. KnowledgeWorks.

Endnotes

1. KnowledgeWorks is also engaged in large-scale efforts in Nevada. The effort there has remained primarily at the state level, and not at district- or classroom-level. Due to these differences from the other states and a lag in data collection, we did not include them in this review of data on district implementation.

2. While inter-state statistical analysis is not feasible, intra-state quantitative analysis is underway with reports released in 2024 on outcomes in Arizona, North Dakota and South Carolina.

3. Duffy, M. & Eddins, M. (2022). From State Commitment to District Implementation: Approaches and Strategies for Personalized, Competency-Based Learning. Research for Action, p.31-32. https://www.researchforaction.org/wp-content/themes/rfa001/download.php?file_url=https://www.researchforaction.org/wp-content/uploads/2022/06/RFA-Knowledgeworks-2022-final.pdf

4. For a deep analysis of policy catalysts and logic models in four states, see Duffy, M. & Eddins, M. (2022).

5. Everett, A., Hilger, L., Kanaan, R., & Phillips, L. (2021). Finding Your Path: A Navigation Tool for Scaling Personalized, Competency-Based Learning. KnowledgeWorks. https://knowledgeworks.org/resources/navigation-tool-finding-your-path-scaling-personalized-learning/

6. Duffy, M., & Eddins, M. (2022)

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19. Perera, R. M., Valant, J., Zerbino, N., & Schultz, B. (2024, March 2). How did school board candidates endorsed by Moms for Liberty perform in 2023? The Brookings Institution. Retrieved March 12, 2024, from https://www.brookings.edu/articles/how-did-school-board-candidates-endorsed-by-moms-for-liberty-perform-in-2023/

20. Ahigian R., et al. (2020-2023b). Evaluation of the North Dakota Personalized, Competency-based Learning Initiative: Site Visit Memos. WestEd, p.3.

21. WestEd (2023). North Dakota Site Visit Memo.

22. Authors reviewed webpage language for all transform districts in all four study states. For each, we examined when available: landing page, mission/vision/values page(s), strategic plan components, portrait of a learner. We also did a full site search for the terms "equity" and "diversity."

23. Duffy, M. & Eddins, M. (2022)

24. See for example: Jackson, C. K., Porter, S. C., Easton, J. Q., & Kiguel, S. (2020). Who Benefits From Attending Effective High Schools? National Bureau of Economic Research, Working Paper 28194. https://doi.org/10.3386/w28194; (No Author listed) (2021). Voices from the Classroom 2021: A Survey of America's Educators. Educators for Excellence, Retrieved 12/15/23: https://e4e.org/sites/default/files/teacher_survey_2021_digital.pdf; Durlak, J., Mahoney, J. & Boyle, A. (2022). What We Know, and What We Need to Find Out About Universal, School-Based Social and Emotional Learning Programs for Children and Adolescents: A Review of Meta-Analyses and Directions for Future Research. Psychological Bulletin. 148. 765–782. 10.1037/bul0000383.

25. Survey response results from multi-year administration efforts. KnowledgeWorks (2022, 2023). Implementation and Impact Dashboards (via Tableau data visualization platform).

26. WestEd (2023) North Dakota Site Visit Memo, p.2.

27. WestEd (2023) North Dakota Site Visit Memo.

28. As noted in the introduction, these themes likely seem familiar to anyone versed in organizational change for education systems. By surfacing them through exploratory means, we contribute to this literature by validating and extending previous observations.

29. Ahigian, R., Lacireno-Paquet, N., & Garvey, M. (2023a). Evaluation of the North Dakota Personalized, Competency-Based Learning Initiative: Implementation Progress after Four Years. WestEd; KnowledgeWorks (2023).

30. Lacireno-Paquet, N., Agnew, L., & Vislosky, E. (2022). Evaluation of the North Dakota Personalized Competency-Based Learning Initiative: Implementation Progress. WestEd; Ahigian, R., et al. (2023a); External Research Advisory Committee Notes; Arizona Personalized Learning Network (AZPLN) (2023). Breakout Coaching Discussions. KnowledgeWorks Foundation & Center for the Future of Arizona. Facilitated in person, January 18, 2023.

31. KnowledgeWorks (2023). External Research Advisory Committee Notes.

32. "January 2021 described as a turning point in the district by educators and leaders, with an increased focus on personalization with learners." Ahigian, et al. (2023a), p.19.

33. Duffy, M., & Eddins, M. (2022).

34. KnowledgeWorks (2023). External Research Advisory Committee Notes; North Dakota Department of Public Instruction Website. North Dakota School Calendars. https://www.nd.gov/dpi/districtsschools/school-calendars.

35. Comments made by district administrators from both a relatively small and large district. KnowledgeWorks (2023). External Research Advisory Committee Notes.

36. KnowledgeWorks (2023). External Research Advisory Committee Notes.

37. North Dakota Department of Public Instruction Website. North Dakota School Calendars. https://www.nd.gov/dpi/districtsschools/school-calendars.

38. A "Portrait of a Graduate" is a state's or district's definition of the characteristics of a graduate after going through the K-12 system. They are a way of describing the area's vision for the future and often are crafted with broad community input. See for example, Westrich, K. (2022, May 31). Portrait of a Graduate: A North Star for Teaching and Learning in Utah. KnowledgeWorks. https://knowledgeworks.org/resources/utah-portrait-graduate-teaching-learning-transformation/; Yuma Union High School District Website. Portrait of a Graduate. https://yumaunionorg.finalsite.com/departments/teaching-learning/portrait-of-a-graduate; South Carolina Department of Education Website. Profile of the South Carolina Graduate. https://ed.sc.gov/about/profile-of-sc-graduate/; Northern Cass School District 97 Website. Portrait of a Learner. https://core-docs.s3.amazonaws.com/documents/asset/uploaded_file/1625576/Northern_Cass_Posters_Portrait_of_a_Learner_2021.pdf.

39. KnowledgeWorks (2023). External Research Advisory Committee Notes.

40. Principal from a rural middle school in Northeast Ohio, interview conducted January 2024.

41. EdResearch Solutions (spring 2023). Ohio Qualitative Data Memo.

42. Arizona Personalized Learning Network (2023). Breakout Coaching Discussions. KnowledgeWorks Foundation and Center for the Future of Arizona. Facilitated in-person, January 18, 2023.

43. EdResearch Solutions (spring 2023). Ohio Qualitative Data Memo.

44. Culclasure, B., et al. (2023). Final Report: South Carolina Personalized, Competency-Based Learning Study: Lexington County School District 3. Case Study Deep Dive - Draft Report shared on: October 31, 2023.

45. Ahigian, R., et al. (2023a).

46. Ahigian, R., et al. (2023a); EdResearch Solutions (spring 2023); Arizona Personalized Learning Network (2023).

47. KnowledgeWorks (2023). External Research Advisory Committee Notes.

48. Ahigian, R., et al. (2023a).

49. Comment of a South Carolina educator after the retirement of the main focal person of personalized, competency-based learning effort. Culclasure et al., (2022).

50. Arizona district administrator, interview October 31, 2023.

51. KnowledgeWorks (2023). External Research Advisory Committee Notes.

52. KnowledgeWorks (2023). External Research Advisory Committee Notes.

53. Culclasure et al. (2023). Teacher Focus Groups.

54. KnowledgeWorks (2023). External Research Advisory Committee Notes.

55. Ahigian, R., et al. (2023a).

56. Arizona Personalized Learning Network (2023). Arizona Launch Progress report.

57. See for example: Literature review contained in: Zeiser, K., Scholz, C., Cirks, V. (2018). Maximizing Student Agency: Implementing and Measuring Student-Centered Learning Practices. American Institutes of Research; Jang, H-R. & Reeve, J. (2020). Intrinsic Instructional Goal Adoption Increases Autonomy-Supportive Teaching: A Randomized Control Trial and Intervention. Learning and Instruction, Volume 73, June 2021, 101415; and Kahne, J., Bowyer, B., Marshall, J., & Hodgin, E. (2022). Is Responsiveness to Student Voice Related to Academic Outcomes? Strengthening the Rationale for Student Voice in School Reform. American Journal of Education, 128(3). https://doi.org/10.1086/719121

58. Arizona Personalized Learning Network: Breakout Coaching Discussions. KnowledgeWorks Foundation and Center for the Future of Arizona. Facilitated in-person: January 18, 2023.

59. Ibid.

60. Arizona district administrator, interview October 31, 2023.

61. Modules are "on demand" asynchronous professional development by introducing concepts of personalized, competency-based learning created by KnowledgeWorks.

62. EdResearch Solutions (spring 2023). Ohio Qualitative Data Memo, p.2.

63. Lacireno-Paquet et al. (2022), p.35.

64. Arizona Personalized Learning Network: Breakout Coaching Discussions (2023)

65. Southeast Ohio teacher from a suburban middle school, interview May 18, 2023.

66. Lacireno-Paquet, N ., Ahigian, R ., Agnew, L ., & Vislosky, E . (2021) . Evaluation of the North Dakota Personalized Competency-Based Learning Initiative: Findings for 2020/21 . WestEd, p.29.

67. Arizona Personalized Learning Network (2023). Breakout Coaching Discussions.

68. Ohio convening Participant 22, Instructional Coach from a rural middle-school in Southeast Ohio, interview December 13, 2023.

69. Lacireno-Paquet et al. (2021), p.29.

70. Lacireno-Paquet et al. (2021).

71. Culclasure, B., Fletcher, D., et al. (2023).

72. Ibid.

73. Arizona Personalized Learning Network (2022). Launch Cohort 1A Progress Slides. Presented during virtual meeting on: November 17, 2022.

74. Santa Cruz Valley Unified School District No. 35 (2023). Professional Development Program, retrieved 3/2/24: https://sites.google.com/scv35.org/learning/professional-learning; Yuma Union High School District (2023). Performance-based compensation presentation notes.

75. Ahigian, R., et al. (2023a), p.9.

76. South Carolina educator in a Lighthouse district, interview October 30, 2023.

77. Lacireno-Paquet, N., Agnew, L., & Vislosky, E. (2022).

78. Ahigian, R., et al. (2023a), p.9.

79. Arizona Personalized Learning Network (2022). Launch Cohort 1A Progress Slides. Presented during virtual meeting on: November 17, 2022.

80. Arizona Personalized Learning Network (2023). Breakout Coaching Discussions. KnowledgeWorks Foundation and Center for the Future of Arizona. Slides. January 18, 2023.

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82. KnowledgeWorks (2021, 2022, 2023). Implementation and Impact Dashboards.

83. Ibid.

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85. EdResearch Solutions (spring 2023). Ohio Qualitative Data Memo, p.6.

86. EdResearch Solutions (2023). Ohio Personalized Learning Specialist Staff Survey Memo.

87. Arizona Personalized Learning Network (2023).

88. Lacireno-Paquet, N., Ahigian, R., Agnew, L., & Vislosky, E. (2021), p.6.

89. Lacireno-Paquet, N., Agnew, L., & Vislosky, E. (2022). p. 35.

90. Culclasure et al. (2023). Student Focus Groups.

91. Culclasure et al. (2023). Teacher Focus Groups.

92. Yuma Union High School District (2022). Portrait of a Graduate Story Blogpost. Retrieved 3/20/24: https://www.yumaunion.org/departments/teaching-learning/portrait-of-a-graduate/portrait-of-a-graduate-story/.

93. KnowledgeWorks (2023). External Research Advisory Committee Notes.

94. KnowledgeWorks (2022,2023). Implementation and Impact Dashboards (cross-state comprehensive).

95. Ibid.

96. Ahigian, R., et al. (2023a).

97. KnowledgeWorks (2023). External Research Advisory Committee Notes.

98. Culclasure, B., Fletcher, D., et al. (2023).

99. EdResearch Solutions (spring 2023). Ohio Qualitative Data Memo; Arizona Personalized Learning Network (2023).

100. Ahigian, R., et al. (2023a).

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102. Rye, A. et al. (2023). District presentation slide deck, slide 11.

103. Culclasure et al. (2023).

104. Ibid.

105. KnowledgeWorks (2023). External Research Advisory Committee Notes.

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111. Culclasure et al. (2023).

112. Ibid.

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114. Duffy, M., & Eddins, M. (2022)

115. KnowledgeWorks (2023). External Research Advisory Committee Notes.

116. Ibid.

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122. EdResearch Solutions (spring 2023). Ohio Qualitative Data Memo, p.11.

123. Culclasure, B. et al. (2022); Culclasure, B. et al. (2023)

124. Arizona Personalized Learning Network (2022).

125. Arizona Personalized Learning Network (2023). Breakout Coaching Discussions. KnowledgeWorks Foundation & Center for the Future of Arizona. Facilitated in-person: January 18, 2023.

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129. South Carolina educator in a Lighthouse district, interview conducted October 30, 2023.

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131. Duffy, M., & Eddins, M. (2022).

132. Ibid.

133. Ibid.