

Technology Integration in Diverse Contexts: Models of Competency-Based Professional Learning in Three School Districts

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Abstract. Innovation in education requires educators to develop new skills, knowledge, and mindsets. Reimagining professional learning approaches to provide educators with the time, space, and resources to develop the necessary competencies is critical to creating optimal learning environments. Three school district leaders from urban and suburban districts in the United States with high populations of second language learners will share their competency-based professional learning model. The district leaders will share their professional learning models and the impact in their unique context. The focus will be based on personalized professional learning to support powerful learning and teaching accelerated by technology. An emphasis will be on personalized professional learning and demonstrations of teacher development linked to student outcomes rather than seat time. Implications will be shared for designing an ecosystem, characterized by high expectations and high support, to impact a culture of learning and innovation.

Keywords: Professional learning · Leadership · Competency-based · Personalized learning

1 Introduction

Innovation in education requires educators to develop new skills, knowledge and mindsets. Reimagining professional learning approaches to provide educators with the time, space, and resources to develop the necessary competencies is critical to creating optimal learning environments. Meeting teachers where they are and helping them move forward requires a systematic approach to support personalized professional learning. It is critical to build an ecosystem of support, characterized by high expectations and high support to impact a culture of learning and innovation. Mobile Technology Learning Center (2015) research indicates that to authentically integrate technology, teachers desire to:

1. Build a shared understanding of the role of technology in the classroom.
2. Engage in personalized professional learning to develop confidence and competence at their own time, place and path

3. Observe and experience models of desired teaching and learning
4. Receive feedback to develop their practice
5. Opportunities for structured collaboration to learn with peers teaching the same content

Traditional professional development manifests itself in the form of off campus workshops and typically little connection or implementation is generally made at the school level. Darling-Hammond and McLaughlin (1995) have long argued that professional development needs to shift from imposing knowledge and skills onto teachers, to providing opportunities for reflection on practice in order to develop their own understanding of content, pedagogy and learners. Quality teachers with experience and content knowledge exist in many schools and are often the most untapped resources. Establishing networks of support for teachers, both novice and veteran can serve as highly effective professional learning.

Revisiting the purpose and vision to support the fast pace of change in the growing information economy is critical to creating learning environments that meet the needs of today's learners. The work of district leaders is not to manage the resources, decisions or data, but to ensure the schools and teachers remain focused on the vision and are empowered to engage in the continuous learning required to achieve it. It is critical to facilitate the development of collaborative environments where learners develop content knowledge and skills that will prepare them for our globally competitive world.

2 Theoretical Framework

There are wide-ranging developmental influences that affect teachers' experiences. Experience is defined by Bronfenbrenner (2005) as subjective feelings that emerge in early childhood and continue through life. Experiences are "emotionally and motivationally loaded" (p. 5). Teachers are influenced by their beliefs, personal experiences, professional preparation and ongoing professional learning. To understand teachers' experiences, it is important to understand the influences that perpetuate their development and situate the teaching and learning in context.

Bandura's social learning theory (1977) explains how behaviors are learned through observation of behaviors, attitudes and emotional reactions of others. Social learning theory focuses on the learning that occurs within a social context. People learn from one another, through observation, imitation and modeling. When schools are organized to facilitate positive learning models, interactions promote learning and foster school wide achievement (Darling-Hammond and McLaughlin 1995; Meier 2002).

In order for students to achieve high levels of success, administrators can organize schools in a way that supports teachers' development and understanding of how to teach students in that context (DuFour 2007; Mertens and Flowers 2004). Continuous professional discourse about powerful learning experiences and authentic technology integration, with regard to specific issues that school populations face such as motivation, developmental appropriateness, race, socio-economic status, specific learning needs, English proficiency and other challenges that exist in students' lives are important for teacher development.

3 Literature Review

There is wide agreement that as environments, resources and tools change to meet the needs of today's learners, the role of teachers must shift as well. The desire to "transform" learning and teaching is often expressed as a goal but the teacher's role in this change, or how to get there, is not often as clearly articulated. To help teachers develop the pedagogical, technological, and content expertise or TPACK (Mischra and Koehler 2006), it is critical that teachers engage in learning experiences that model the desired learning (Ottenbreit-Leftwich et al. 2010), have opportunities to collaborate and opportunities to personalize the learning for their own needs.

Research overwhelming identifies that effective professional learning is ongoing and situated within a community of learners (Darling-Hammond 1997; Garet et al. 2001; Stoll et al. 2006). Teachers are socialized in various ways including the observation of their previous teachers known as the *apprenticeship of observation* (Lortie 1975), during their preparation programs and especially on-the-job experiences. Seeing models of desired learning environments helps teachers deepen their understanding of how to organize instructional time and effectively teach. Observations and models of teaching practices impact teaching practices (Hughes 2013), especially when coupled with critical reflection to challenge assumptions and traditional practice (Antonacopoulou 2004; Boud and Walker 1998; Brockbank and McGill 2006; Brookfield, 2005; Katz et al. 2005). In addition, incorporating mentoring, coaching and critical dialogue in the teacher's day can increase students' understanding and achievement, as well as teacher job satisfaction (Kardos 2004; Smith, and Ingersoll 2004). Establishing networks of support for teachers, both novice and veteran can serve as highly effective professional development. Although the research outlines effective characteristics of professional learning, a great disparity between research and practice still exists resulting in professional learning as episodic and didactic, separate from authentic work. (Gravani 2007; Hawley and Valli, 1999; Murrell 2001)

3.1 Visionary Leadership

Establishing a shared vision among stakeholders is imperative when trying to implement wide-scale change. Identifying and articulating a vision imply "practices aimed at identifying new opportunities for the school, and developing, articulating, and inspiring others with a vision of the future" (Ng 2008, p. 5). The literature has emphasized the importance of developing, articulating, and communicating a shared vision of the intended change in general (Fullan 2013; Tearle 2004) and school planning and vision with regard to technology in particular (Fishman and Pinkard 2001; Hall and Hord 2006; Lim and Khine 2006). Research suggests that the lack of technology integration may be caused by a misalignment between the leader's vision of technology integration and the teacher's vision of technology integration (Shattuck 2010). To ensure that there is a common understanding about the role of technology and innovation, Winschitl and Sahl (2005) suggest the institutional vision must encompass beliefs about learners, beliefs about what characterizes meaningful learning, and beliefs about the role of the teachers within the vision. The beliefs that teachers hold directly impact their actions

and decision-making in the classroom. Moreover, how teachers understand the vision, based on their beliefs and experience can directly influence the way in which they design learning experiences.

3.2 Changing Role of the Teacher

Mobile technology can transform teaching and learning through strategic design and implementation. There is great potential to facilitate deeper learning experiences for all students; however, this type of instruction calls for a shift from the traditional norms in education. To facilitate this shift, school leaders can ensure teachers have access to high quality digital content and be supported to become designers of robust learning experiences for all students. According to Fullan and Langworthy (2013), in order to effectively integrate technology, the teachers need to shift from transmitters of knowledge to:

1. Designers of powerful learning experiences
2. Sources of human, social and decisional capital in the learning experience
3. Partners in learning with students, accelerated by technology

To feel confident in becoming designers of powerful learning experiences, however, many teachers express having to learn two things: how to operate the technology and how to integrate its use into learning and teaching. Teachers want to increase their effectiveness with technology integration through professional development, but recognize they also need the time and space to translate these skills into their classroom practice. For teachers, time to plan or strategize how they will incorporate what they learned into their instruction, needs to be embedded in ongoing collaboration to fully realize the potential of the technology. It takes time and support to internalize and implement the many uses of technology to enhance instruction in the classroom.

3.3 A Culture of Learning

To facilitate the changing role of the teachers, effective technology integration requires understanding the vision and the dynamic relationship between pedagogical, content, and technological knowledge, known as TPACK (Mishra and Koehler 2006) (See Fig. 2). Innovative Teaching and Learning (2011) research findings concluded that innovation flourished when teachers collaborated on best teaching practices, were provided opportunities to learn and practice new methods, and were guided by a common vision and continuous support. Transformational leaders create systems to embed this work into the school day and facilitate teachers of the same content in continuous planning, analyzing and reflecting on student learning through small collaborative learning communities (Joyce and Showers, 2002; Marzano, Waters, and McNulty, 2005). Such programs can be structured in ways that provide teachers with consistent and meaningful collaboration with colleagues, afford them opportunities for learning, and allow them to be learners alongside their students (Darling-Hammond and McGaughlin, 1995; Lieberman and Miller 1999; Meier 2002).

Within the systems to support learning, effective professional learning actively engages teachers in authentic contexts (Elmore 2002), including time that teachers can plan lessons with their colleagues and be empowered to make decisions to improve their own professional practice. Project Discovery (Shulman and Armitage 2005), an urban middle school reform effort, utilized inquiry-based methods, interdisciplinary curriculum and invited teachers to take control of the learning in their classrooms. This program provides a model of professional development that yielded results in both student achievement and teacher satisfaction. A significant increase was found in the number of students meeting state standards on standardized tests in mathematics and English. Additionally teachers reported an improved school climate and a sense of empowerment (Shulman and Armitage 2005). Lessons and activities that teachers create and apply in their own classrooms, followed by more discussion and learning with their peers is an ideal form of professional learning.

3.4 Competency-Based Professional Learning

Teacher's beliefs, knowledge and use of technology were the strongest barriers preventing their use of it in the classroom (Ertmer and Ottenbreit-Leftwich 2010). It is essential that professional learning meet teachers where they are to increase knowledge and skills to increase their confidence while minimizing the fear associated with using technology. Given the diverse skill and comfort levels that teachers bring, there is a need for personalized support to build on their strengths and support areas of growth. Robust systems of support for teachers must embed opportunities for collaboration, coaching, and access to resources that allow teachers to choose their learning path based on their goals and needs. Effective leaders create job-embedded collaboration to ensure teachers share and learn about how to effectively leverage technology to meet their desired learning objectives. Guided by their belief that technology is not an add on, they prioritize resources to provide ubiquitous access for all students.

To shift from a traditional professional learning model to competency-based professional learning, a system that provides clear expectations and offers multiple pathways for teachers to learn is necessary to effectively support the diverse teaching force. A competency-based system allows teachers to demonstrate proficiency in areas where they excel and seek support and guidance for specific areas of growth (Cator et al. 2014). Similar to demonstrations of student learning linked to mastery, competency-based professional learning allows leaders to identify the expectations and allows for personalized paths to develop and demonstrate mastery of effective teaching practices. Valuing the differences in teachers and immersing them in transformative learning experiences is a key lever that will allow them to design similar learning experiences for the students they teach (Fig. 1).

This paper is critical because it provides specific examples of districts that are implementing competency-based professional learning systems to provide educators with high expectations and high support to help them develop the knowledge and skills aligned to the changing role of the teacher in three unique contexts. District leaders can model and support their vision through the type of professional learning opportunities they provide for their teachers. According to Baylor and Ritchie (2002), leaders who

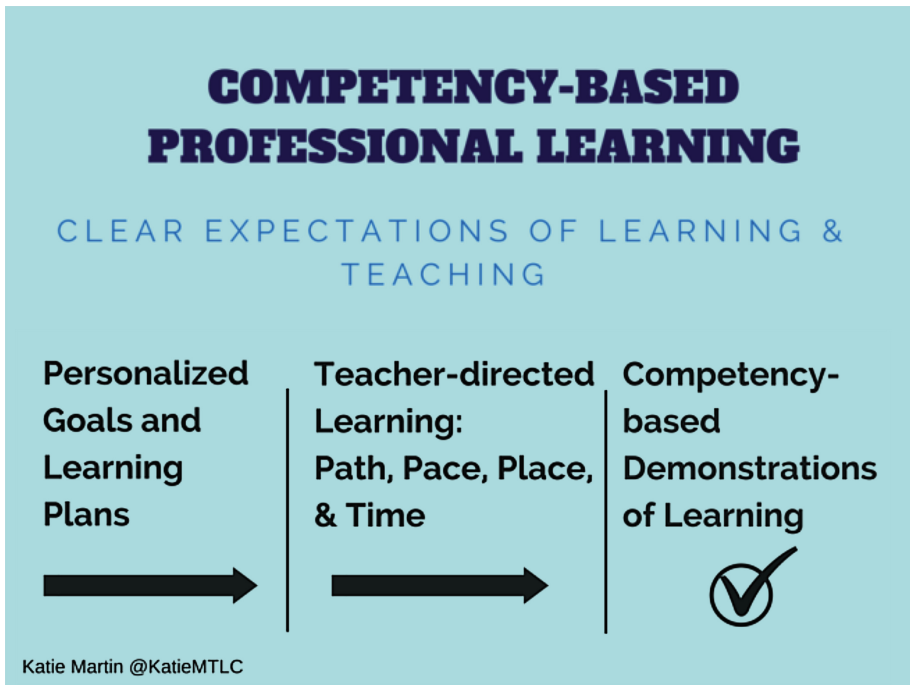


Fig. 1. Competency-based professional learning

promote the use of technology, not only in words but also in action, lend credence to a technology-rich culture. Moving away from assessing learning opportunities by seat time, a competency-based approach allows leaders to identify the expectations and allows for personalized paths to develop and demonstrate evidence aligned to effective teaching practices.

4 Case Study 1: Encinitas Union School District

A small coastal elementary district in Southern California has provided iPads for students across the district for the past seven years. To ensure technology is leveraged to innovate and drive powerful learning, EUSD has developed a system of support to meet the teachers' needs. The comprehensive plan provides robust support for teachers through district wide vision and alignment, site based learning and development, personalized learning, instructional coaching and communities of practice.

4.1 District Wide Vision and Alignment

In order to align the district priorities, there are five days of professional learning that the district provides for teachers. Once at the beginning of the school year and four

additional times throughout the year to support district-wide priorities such as information literacy, math instruction, Next Generation science standards and English Language Development. These initial sessions are intended to set the expectations and teachers will follow up on integration of new knowledge in collaboration and planning time in their committee work as well as their personalized learning plans.

4.2 Site-Based Professional Learning

Hall (2010) found that the school principals had the most impact on teacher's technology integration. To allow for school leaders to strategically support teachers based on needs and context, sites determine their instructional goals and needs for professional learning. Each site has 6 "First Fridays" for site-based professional learning. To further support teacher development, each grade level meets weekly to allow for teachers to plan, collaborate and share strengths and challenges as they integrate new learning. Finally, each Friday is an early release day, which affords teacher the opportunity to plan. As teacher-driven curriculum is a priority, teachers also have two release days to draft curriculum maps.

4.3 Personalized Learning

To support diverse learning needs and styles, the district has created a personalized learning plan that provides teachers with a \$500 stipend to pay for resources, workshops, or time while they work to meet their desired learning goal. EUSD also offers after school support for technology specific tools and Friday afternoon support in district programs such as DefinedSTEM, Hapara, Digital Library along with iTunesU courses that teachers can access based on their needs and goals. In addition there are district-wide instructional coaches that provide feedback to teachers based on their goals to help them improve their practice. The district has also created their own EdCamp, an un-conference driven by the needs of the learners attending rather than pre-determined sessions. This is an opportunity for teachers, principals and central office leaders to share and discuss their ideas that are relevant to them about how to meet the needs of their students, create powerful learning experiences, and develop a culture that supports and sustains powerful learning.

4.4 Communities of Practice

Extended learning opportunities are also provided for teachers that want to work in a cohort or community of practice to further their learning and engage with like-minded peers. In these summer and winter sessions, teachers focus on an in depth topic and through activities, readings, and modeling of the new ideas. Teachers have opportunities to work together to plan for how they might integrate new learning with colleagues from across the district.

5 Case Study 2: Cajon Valley Union School District

Cajon Valley Union School District (CVUSD) is a K-8 district of 24 schools in eastern San Diego that serves a high population of English language learners and has a high population of Title 1 students. In 2014 they began a 1:1 initiative to meet the needs of their diverse student population. In addition, to support their teachers, they have redesigned their professional learning approach to allow teachers and administrators to personalize their support to ensure teacher build confidence and competence in the new tools and resources as well as pedagogy to facilitate powerful learning.

5.1 Digital Academy

CVUSD minimized templates and structures to focus on competency-based demonstrations of learning. They have developed an online digital academy that provides teachers with the content and skills necessary to complete a Demonstration of Learning (DOL), which leads to the earning of a digital badge and corresponding stipend. Most professional development models pay teachers for their time to sit through a “training” or “workshop”. This innovative approach to professional development makes time the variable and learning constant. Advanced teachers can skip through modules and go straight to the Demonstrations of Learning. Novice teachers on a given competency may go slow, work with a team, or have in person support if necessary as they complete their badges.

Cajon Valley’s Digital Academy is an online platform for teachers to access tools, examples and learning modules to support their professional growth. With ample resources to explore, teachers can elect to participate in online professional development to develop the desired competence. Once teachers have applied the skill, they submit evidence of student work. As teachers learn new skills, gain knowledge and build expertise, integrating technology into the teaching and learning process, their accomplishments will be acknowledged with digital badges. Cajon Valley Digital Academy provides a framework, which allows teachers to learn about and apply digital tools in their instructional practice. This platform has been designed so educators have all the resources needed to master the digital-age skills embodied in the [ISTE NETs Standards for Teachers](#).

5.2 Personalized Pathways

Based on the desired learning objectives (outlined by the Demonstrations of Learning), Cajon Valley has created modules and resources to guide learning. To meet these learning objectives, the various pathways honor teacher’s learning style, time, and existing level of competence in the desired skill. Teachers can learn on their own, during the workday with release time, in self-selected communities of practice, inter-session workgroup and grade level teams.

5.2.1 On Your Own

Teachers are given choice to use their own personal learning network, online resources, or face-to-face based on their needs and learning styles. Teachers are empowered to learn in a way that meets their needs. The focus is on how they have integrated their learning based on the clear expectations, rather than how they are learning.

5.2.2 Release Time

Many teachers do not have the opportunity to go to conferences or spend their personal time learning because of the many other responsibilities they have outside of their professional lives. The district has provided the option to pay for release time for teachers to take time during their workday to learn new skills or tools and plan for how to integrate them into their learning experiences.

5.2.3 Communities of Practice

Many teachers prefer to learn with like-minded peers in a community setting where they can share, discuss, and problem solve. The district has been the catalyst to convene groups of educators for this purpose but many communities of practice have also emerged organically to support emerging needs and learning goals.

5.2.4 Intersession Workgroups

For teachers who prefer a more guided learning experience CVUSD created professional learning workgroups during intersession breaks. These sessions are facilitated and help guide teachers through the learning experiences and provide opportunities to develop the desired skills and knowledge in a face-to-face setting.

5.2.5 Teacher Collaboration Teams

In addition to the Digital Academy that helps teachers develop skills and knowledge to more effectively leverage the Chromebooks to facilitate innovative learning environments, the district has modified their schedule to provide teachers time to plan and collaborate on a weekly basis. To delve deeper and engage in personalized professional learning teachers meet with their grade level team and receive customized professional learning based on their instructional goals and the needs of the team.

5.3 Apprenticeship Model

Beyond the pathways for teachers to learn, CVUSD has piloted a model to create meaningful learning experiences for both students and teachers. Opportunities for teachers to be immersed in authentic learning experiences with technology allows for increased technological proficiency and their approach to using technology in create authentic learning experiences for students (Shapley et al. 2010). CVUSD leveraged their summer school program to provide learning opportunities for students but also to model innovative approaches to learning for their teachers. Over 200 students from Kindergarten to seventh grade participated in the summer extension program. They selected eight “lead teachers” based on knowledge and expertise to design the summer school courses. Each teacher had six partner teachers and throughout the summer sessions these teachers collaborated, observed, learned, and had opportunities to

practice new learning. Despite its value, this apprenticeship model is rarely used outside of pre-service programs. As the needs of our students change, it is critical that teachers have opportunities to observe and experience new models of learning to change their practice and meet students where they are.

6 Case Study 3: Houston Independent School District

Houston Independent School District (HISD), a large urban school district has implemented PowerUp, a digital transformation initiative that provides each high school student a laptop to ensure students have the knowledge, skills, and resources to be globally competent and competitive. As the environments, resources and tools change to meet the needs of learners in our schools today, teachers' roles must shift (Storz and Hoffman 2013). To do this, it was necessary to identify the desired characteristics of a global graduate in order to identify what teachers need to know and do to support this development. To articulate these expectations, a diverse committee that had representatives across the district initiatives and included both school level and central office leaders, defined the desired teacher competencies to include: Life-long Learner, Deeper Learning Cultivator, Social and Emotional Learning Facilitator, Data Driven, Personalized Learning Architect, and Literacy Developer. Throughout the iterative process, there was feedback from site-based teams to ensure the competencies aligned with the vision of the global graduate, the district priorities, and teacher development and appraisal. To ensure that teachers not only had high expectations to but that there was a robust system of support, the Secondary Curriculum and Development reorganized the professional learning and curriculum development team to provide more personalized support for teachers and align their work to the desired teacher competencies. To build a shared vision, school leaders and teachers each engaged deeply in learning experiences that allowed them to become learners with the technology in order to envision their role in created the desired learning environments (Ottenbreit-Leftwich et al. 2010). Creating opportunities for teachers and leaders to leverage technology is instrumental in helping them to provide new and better learning experience for students.

6.1 Micro-credentials

To support teachers to develop the necessary skills and knowledge to facilitate optimal learning experiences, HISD and the University of San Diego (USD) have teamed up with Digital Promise to pilot a competency-based professional learning model that prioritizes learning pathways over seat time to support teacher development. Honoring teachers existing knowledge, interests and expertise allows for a diverse teachers to deepen knowledge and skills to maximize the potential of all learners. Based on the HISD teacher competencies, we have developed micro-credentials to identify specific skills, resources and evidence that support the optimal learning environment. Creating a system of micro-credentials redefines the traditional professional learning model and empowers educators to make decisions about their learning needs based on their unique context and learning goals aligned to a common vision.

Based on demonstrations of competence, teachers will submit artifacts that demonstrate their learning through authentic artifacts such as videos, student work, reflection, and observations to be assessed initially by the University of San Diego and eventually in a peer-review process by those who have also received the micro-credentials. Once teachers have demonstrated their competence, the micro-credentials are intended to create pathways for teachers to provide support for peers through professional learning, mentoring, collaboration and networks with and beyond schools. By moving recognition of professional learning away from seat time and towards competency, educators will become empowered to drive their learning and create networks of professional learning communities. These communities will, in turn, encourage system-level improvement.

6.2 Ecosystem of Support

To support sustained growth and impact student learning, there will be ongoing support for teachers to develop competencies to facilitate the digital transformation. A robust ecosystem of professional learning is necessary to support teachers and meet their unique needs, based on individual experiences, strengths and skill sets. To articulate the shared vision and communicate the desired competencies, the HISD summer professional learning institutes enables teachers to experience different learning environments specific to their content and grade level. Embedded in this is the opportunity to reimagine learning and implications for their own classrooms and plan for implementation. In addition to content development and instructional pedagogy, attendees had options to learn about the HUB, the district's learning management system, project-based learning, formative assessments for instructional planning, global communication and literacy, tools for classroom innovation and strategies facilitating deeper learning. These sessions were aligned to the teacher competencies to help make the teacher development explicitly tied to the vision.

To build on this work and ensure systemic impact, teachers will assess their current practice, develop a personal learning plan to determine next steps and align



Fig. 2. Professional learning ecosystem of support

professional learning opportunities to support their growth. Ample opportunities for teachers to continue their professional learning and develop their teaching practice are provided throughout the year. In addition to professional learning sessions aligned to specific competencies and micro-credentials, each school has coaches and is designing systems to ensure that support and learning is systemic and sustainable. Teachers work with instructional coaches (CITs, District Curriculum Specialists, Teacher Leaders) as part of their work day and have access to online resources for learning, and regular face-to-face teacher collaboration teams meet to plan, collaborate and analyze the impact of their instructional practices.

7 Discussion

These three unique districts provide models for how to support teachers through competency-based professional learning. Each of these systems are designed to meet the unique needs of the district in service of all learners through the alignment of the vision, empowering teacher voice and choice, and creating a culture of learning and innovation.

7.1 Alignment of Vision

Research has indicated that leadership is a crucial aspect of innovation. District and school leaders have the ability to impact school culture, technology integration practices, the acceptance of a district-wide vision, teacher pedagogical beliefs, the effectiveness of professional development and even influence student content acquisition (Ertmer and Ottenbreit-Leftwich 2010; Hew and Brush 2007). To develop a new professional learning model each of the districts had to ensure there was a shared vision that was clear and articulate it to all stakeholders. This ongoing commitment to the shared vision helps everyone work together for a common purpose.

7.2 Teacher Voice and Choice

The extent to which teachers feel comfortable in the learning process influences their willingness and confidence in their ability to integrate technology into their teaching (Adiguzel et al. 2011). Previous attempts by districts to provide professional development for all teachers at the same time and pace have not met the vast range of teachers' needs (Darling-Hammond 1997). Teachers in each of the districts had voice and choice in their learning opportunities to build confidence in their abilities to integrate it into their classroom practices. Teachers had a range of support to meet their diverse pedagogical, technological, and content expertise.

7.3 Culture of Learning and Innovation

In each of these districts contextual factors were addressed to make the most that impact on teachers in their unique district (Bronfenbrenner, 2005). The vision and the desired learning environments were explicitly communicated to facilitate teacher

development and impact student learning. Each of the districts modeled new ways of learning resulting in new ways of teaching. By personalizing learning for teachers, they have been empowered to try new and innovative practices to leverage technology and other resources to meet the needs of their students.

7.4 Implications

Realizing professional learning needs to change is one thing but shifting a culture to make this systemic change is a challenge that plagues many schools and districts. These three case studies present models for shifting from traditional professional learning to one that prioritizes demonstrations of learning and addresses the strengths and challenges of diverse teachers to make the most impact on their students.

1. **Clear Expectations for Learning and Teaching** - Based on a shared vision, determine what you want teachers to be able to know and do to create the desired learning experiences for students. Without a common understanding many people guess and the shared vision can rarely materializes in the majority of classrooms.
2. **Learning Experiences and Models** - Providing learning experiences and models of authentic learning environments with 1:1 technology supports teachers to develop technological expertise and allows them to use design learning experiences for their students to leverage the technology
3. **Personalized Goals and Learning Plans** - Support teachers to self-assess their strengths and goals in respect to the desired learning environments in order to determine personal goals and craft a personalized learning plan based on the resources and support available.
4. **Teacher-Directed Learning (Path, Time, Place, and Pace)** - Teachers have diverse expertise and preferences about how and what they learn. Provide clear learning goals but allow for choice and voice to empower teachers to learn in a way that suits their needs and builds on their strengths to develop and apply new knowledge.
5. **Competency-Based Demonstrations of Learning** - To move from assessing professional development by the number of days or hours teachers have attended, prioritizing the application can help shift professional learning from something we do to educators to an improvement process that impacts learning for all.

7.5 Considerations for Further Investigation

Although the benefits of the three competency-based professional learning models provide each district with success, there are questions that they illuminate for further investigation as we move away from more traditional models.

8 Vision and Expectations

Each of the district models had varying levels of expectations for what teachers are expected to know and do. It is worth investigating the implications of these expectations and how they foster or hinder teacher development and integration of practices

aligned with the vision. As these districts transition from a system that focus on attending mandated trainings and move towards empowering them to learn in more personalized ways, the model of accountability changes. The demonstrations of learning are the measure rather than the logged hours of training. As the goal is to empower others, not mandate, there is a balance that these districts are working to achieve. The question remains as to the best way to ensure that all teachers are moving forward and creating a system that remains focused on learning rather than external incentives.

8.1 Assessment and Accountability

Connected to the both vision and expectations, the assessment measures will drive the learning. Accountability helps ensure that we are meeting desired outcomes but can also be too stringent and limit creativity and innovation. It's a delicate balance to create a system that provides clear expectations yet enough autonomy to drive personalized learning for all.

9 Conclusion

In order to meet the needs of teachers, it is critical to reimagine professional learning to foster innovative teaching and learning. Taking into account the unique context and resources, each district must design professional learning systems to provide educators with the clear expectations, models, resources, and time to collaborate with peers to develop new skill sets aligned to the vision. The needs, capacities, and priorities of students, teachers, and leaders should guide resource allocation and learning opportunities so that technology integration and classroom application are effective. To realize the vision of powerful learning accelerated by technology, systems that foster personalized professional learning and robust support are necessary to fully integrate new learning into classrooms. Building and ecosystem that cultivates a culture of learning requires safe opportunities to practice, observations of models, time for reflection and revision, and capacity building collaboration. The power of professional learning comes from this continuous cycle that promotes and sustains new learning and innovation based on the needs and interests of the learners.

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