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Digital Professional Learning for K–12 Teachers: Literature Review and Analysis

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Due to the COVID-19 pandemic, the world of education has had to abruptly pivot to relying heavily on digital methods of delivery. For teachers, much of their professional learning has gone digital as well.

To help those in charge of developing and delivering teacher professional learning online, this brief summarizes themes from an informational scan of research on digital professional learning. The information here is meant to assist professional learning developers and facilitators as they draw on existing materials and transition them to digital modes of delivery, building new learning experiences for an online environment.

Though much has been written and researched about best practices for traditional (i.e., face-to-face) teacher professional learning, less has been studied about digital professional learning for teachers. Many sources reviewed for this brief were written by authors outside the United States, and much of the information looks specifically at rural areas, which have had to deal with issues of isolation prior to the current pandemic.

Best Practices for Professional Learning

Many themes from research on traditional professional learning may be applicable to professional learning in a digital environment. For example, Guskey (2002) evaluated traditional modes of professional learning and found that the most effective approaches tend to be designed to take into account the following:

» Participants' learning and reactions

» Organizational support and change

» Participants' use of new knowledge and skills

» Intended learning outcomes for participants' students

Conversely, issues or characteristics that have been found to limit the effectiveness of professional learning include the following (Lock, 2006, p. 665):

» One-time and one-size-fits-all workshops (sometimes called "one-and-done")

» Having content experts provide training to teachers

» Not taking school-specific differences into account

» "Just-in-case" training (preparing for potential problems that the participants have not actually experienced)

» Large-format presentations that do not give teachers appropriate planning time or time to learn new strategies to meet the needs of their own particular students

For moving educators' professional learning into digital spaces, many of these same factors for what makes professional learning more effective — or less effective — still apply. The next sections of this brief cover the following themes that emerged from the literature review focusing more specifically on digital professional learning:

» Community-building

» Customization

» Extension of learning

» Effective facilitation

» Learning modalities

» Motivation

The literature reviewed for this brief suggests that attention to these themes can be leveraged to build and deliver effective, timely, and meaningful professional learning for educators.

Community-Building

Access to professional learning is important for improving pedagogy and content knowledge. A study by Broadley (2010) found that when teachers are kept solely in the classroom (physical or virtual), they can become isolated from colleagues and separated from other professional support structures that can impact teacher retention, particularly in rural communities, which have had to deal with isolation prior to the current COVID-19 environment. The rural teachers in Broadley's study relied on professional learning opportunities for networking and for building a culture of continuous learning. Most respondents (72.9 percent) to a survey indicated that they were part of the professional learning community within their school, an even higher percentage (84.3 percent) valued professional learning that provided opportunities for them to share their own teaching practice with other teachers, and all (100 percent) valued learning what other teachers do in their classrooms (Broadley, 2010, p. 71).

Digital professional learning communities, or virtual communities of practice, have the potential to provide educators with these kinds of opportunities through new and expanded communities in which to engage and by growing their professional networks, thereby expanding their pedagogical and content area knowledge.

» Some research has found that having virtual professional learning communities can be essential for successful implementation of professional learning (Durr et al., 2020, p. 21).

» Keown (2009, p. 296) identified the following seven elements as being necessary for designing virtual communities of practice that support professional learning:

1. A clear purpose and focus of immediate and practical relevance to teachers

2. Diverse community membership and encouraging different roles for participants

3. Strong leadership and facilitation

4. Appropriate use of technology, concept tools, and media

5. Strong community relationships and values

6. An appropriate time frame, pace, and rhythm for the participants that allows for evolution, flexibility, and challenge

7. Development and nurturing of in-depth dialogue and thinking

» Creating a digital learning community goes beyond simply having an online group with a collective purpose. A digital learning community needs to be well-supported and well-structured while also allowing for flexibility. It should be responsive to the needs of the participants and evolve based on the group's developing visions, goals, and needs (Lock, 2006, p. 675).

» Virtual professional learning communities can involve teacher learning that takes place using a varied range of communication tools. These tools can use different types of platforms, enabling

communication that is "synchronous (video conferencing) and asynchronous (bulletin board discussion)," and can "enable teachers across different geographical locations to collaborate and discuss issues related to teaching practices and pedagogy" (Alberth et al., 2018, p. 298).

» In most face-to-face professional learning, facilitators model pedagogical strategies and moderate discussions. In digital platforms, best practices should still be modeled, and facilitators should moderate discussions. Effective modeling and facilitation are possible when a learning group has a manageable number of participants, allowing effective facilitation of discussions to enable learning and continuous improvement (Herbert et al., 2016, p. 110). Facilitators must also possess the requisite skills and have access to the supports necessary for effective virtual facilitation of discussions (see the "Effective Facilitation" section later in this brief).

» McConnell et al. (2013) found that teachers in virtual professional learning communities have the same benefits as members of in-person professional learning communities. From the focus group interviews conducted in this study, the following six key elements of professional learning communities emerged (p. 272):

1. Sharing articles or information found by others

2. Group members giving new perspectives on evidence

3. Hearing practical solutions that others have tried

4. Participants having accountability to the group

5. Focusing on professional discourse

6. Developing professional friendships

Customization

When professional learning is customized to the needs of a particular audience rather than utilizing a one-size-fits-all approach, educators are more likely to engage meaningfully in the experience (Lock, 2006). A one-size-fits-all professional learning experience may focus on a standardized approach to content, method of delivery, and/or way that learning takes place. Although customization is best for all types of professional learning, the research reviewed for this brief indicates that customization may be especially important for a digital learning environment. In a digital environment, engaging participants in different modalities of learning may be challenging because, by default, participants are isolated by being located apart from one another in their own spaces. However, through customization, content can be delivered in ways that engage participants with diverse learning styles.

» To customize online professional learning, facilitators should consider the software being utilized to deliver the learning experience and should familiarize themselves with whatever means for customization are baked into the software. These features may include design choices, device options, ease of use, and features that promote participant interactivity (Herbert et al., 2016, p. 110).

» Educators should be involved in their own professional learning, allowing them to help personalize the experience, rather than being passive recipients. One way to include educators in the conversation and build ownership of their professional learning is to encourage their participation in setting goals for the professional learning at the outset. This practice can enhance productivity and decision-making, as educators can then work to fulfill their own goals (Gamrat et al., 2014, p. 1144).

» Administrators can consider three means of supporting flexible online professional learning: organizing events to allow for flexible goal-setting, offering a variety of modes of content

delivery and types of assessment, and keeping an accessible record of information and/or artifacts from professional learning experiences (Gamrat et al., 2014).

Extension of Learning

Demonstrating the importance of extending professional learning beyond what is often known as a "one-and-done" approach, a review of 1,300 professional learning studies found that programs lasting less than 14 hours had minimal effects on instruction and negligible effects on student achievement (Yoon et al., 2007, as cited in Durr et al., 2020). The translation of professional learning to an online forum can enable participants to extend their learning; and it can ultimately impact their practices in a variety of ways, such as by collaborating with colleagues to apply techniques and knowledge from professional learning events, implementing a cycle of continuous improvement through practicing applying ideas that have been learned, and tracking student progress to chart gains.

» Educators may value time set aside to accommodate asynchronous learning as a companion to synchronous events in order to implement and test classroom trials of the ideas provided in a learning event (Herbert et al., 2016).

» Archiving resources to allow learners to revisit them after the conclusion of a learning event allows those resources and the associated learning to have longer, continuous effects (Herbert et al., 2016, p. 108).

» Creating digital communities of practice or professional learning communities can enable participants to engage with content from professional learning events on a regular and ongoing basis (see the prior "Community-Building" section).

Effective Facilitation

Effective facilitation can be key to the success of digital professional learning. Effective facilitation guides participants through a learning experience that concludes with meeting predetermined goals and success criteria. Facilitation can take many forms and be conducted by a number of different individuals throughout a professional learning experience. Facilitators may be guides who steer participants through learning materials, local administrators or leaders who engage participants in discussion, or experts in the field who impart content knowledge.

» Strong and seamless facilitation of both synchronous and asynchronous components of professional learning experiences can help reinforce participants' learning and exploration of new ideas (Callahan, 2017).

» Virtual coaches may be able to provide feedback or coaching in real time by utilizing online platforms such as Skype or Zoom. One study recommends a praise-to-correction ratio of four to one (Rock et al., 2013, p. 16).

» Having facilitators who are local enables the professional learning to engage participants within the context of their own school culture and norms, and a local faciliator can provide more immediate feedback than consultants hired from outside the school or district (Rock et al., 2013, p. 17). Leaders who are developing professional learning experiences and want to use local facilitators may need to plan ahead in order to identify and train people for this role.

» The digital learning environment provides schools and districts with the ability to engage with experts who would otherwise be out of reach financially for in-person professional learning (Annetta & Minogue, 2004, p. 486). Schools and districts may be able to take advantage of the cost savings of digital delivery to include experts as guest facilitators for all or portions of learning events.

Learning Modalities

Learning modalities are the different ways in which people gain knowledge and skills. Research indicates that digital professional learning experiences should use a multilayered approach to encourage meaningful learning among participants who may have a variety of learning modalities. Successful and replicable models encourage participants' engagement with material and spur them to explore new approaches to teaching and learning (Murphy & Lebans, 2009, p. 277).

» Synchronous events can be paired with asynchronous work to enhance the participants' learning. Asynchronous activities may include independent reading and/or research, classroom practice, offline or online discussions with other participants or colleagues, and/or personal reflections on practice and on the impact of new practices on student achievement.

» Even when primarily online, professional learning should include a job-embedded component. Teachers should have the opportunity within professional learning experiences to "reflect upon their classroom practice in the context of the classroom experience and the school's priorities, explore research-based strategies that will help them to meet class, school, and district goals, and refine what they do through collaboration with colleagues and experts" (Murphy & Lebans, 2009, p. 277).

» Establishing a platform for social interactions between participants can help to ensure that new skills and practices are implemented (Alberth et al., 2018, p. 296). These platforms may be as simple as an email distribution list (provided all parties opt in), a digital course wall, or a Google document.

» Elements for successful digital learning can include posting videos frequently, using short videos instead of full-length lessons, and adopting a simple reflection process (Durr et al., 2020, p. 24).

» In one study, participants in the most successful professional learning communities were provided with "think aloud" (reflection) instructions after completing a task in the digital learning environment rather than having reflection questions to answer during the learning experience (Beach & Willows, 2017, p. 66).

» For evaluating effectiveness and drawing conclusions about learning outcomes, creators of digital professional learning events should consider multiple, varied forms of assessment that take varying participant learning modalities into consideration (Lebec & Luft, 2007, p. 560).

Motivation

Participants' motivation to meaningfully engage in learning is a key component to consider when structuring digital professional learning.

» In a study by Lebec and Luft (2007, p. 554), subjects in an online professional learning course reported a lack of motivation to fully engage in the course because of busy schedules, lack of extrinsic rewards, and the absence of personal accountability. Although the participants were able to satisfy the instructor's criteria for passing the course, most did not show evidence of meaningful learning, which suggests that designers of digital professional learning courses need to provide experiences that engage participants in more than just seat time.

» One means of supporting participants' motivation in online professional learning is through extrinsic rewards such as "digital badges," which are a way for teachers to display and share online a notice, or badge, indicating the different professional learning experiences they have completed. Digital badges allow teachers to advertise their expertise and can provide administrators with a quick means of viewing a teacher's accomplishments and ongoing needs (Gamrat et al., 2014, p. 1138). Mehta et al., 2013 (cited in Jones et al., 2016, p. 428), suggest that

digital badges can replace paper certificates, and they can potentially identify the skills an individual has mastered and information about the criteria required to earn a particular badge.

» Continuing education units (CEUs) were not sufficient motivation for participants to meaningfully engage with the professional learning in Lebec and Luft's study (2007). CEUs are often used by administration to track the hours of professional learning completed by teachers but do not take into consideration the skills that teachers are gaining through these events (Jones et al., 2016, p. 428).

Conclusion

Attention to the themes covered in this brief can be used to design and deliver effective, timely, and meaningful professional learning for educators within a digital learning environment. The literature reviewed indicates the importance of facilitators cultivating communities of learning in which participants can engage in meaningful activities with their colleagues. The research also points to the importance of taking context-specific needs into consideration when designing learning activities. Engagement and motivation can be difficult in any situation, and these roadblocks to engagement may be increased by the current demands placed on teachers in response to COVID-19. Ensuring that the professional learning offerings are meaningful, timely, and tailored to the specific needs of the group can help support participant engagement both in and out of any synchronous learning experience.

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