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Considerations for Professional Learning for Online Teaching in Elementary Contexts Considerations for Professional Learning for Online Teaching in Elementary Contexts

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Considerations for Professional Learning for Online Teaching in Elementary Contexts

Study Purpose

Following the emergency shift from the classroom to the online setting, the education field has attempted to identify best practices for online teaching and associated professional learning (e.g., An et al., 2021). Even in the wake of the acute COVID-19 crisis, preparing teachers for future school closures where online teaching would be necessary remains essential. However, online teaching requires ongoing learning because digital technology is dynamic (Koehler & Mishra, 2009). Given this context, we sought to capture the professional learning experiences of teachers who participated in online teaching during the COVID-19 crisis to determine which professional learning opportunities were most needed.

Theoretical Framework

Technological pedagogical content knowledge (TPACK) is a framework that underpins much of teacher education in technology integration (Graziano et al., 2017). TPACK, derived from Shulman's (1986) pedagogical content knowledge, seeks to delineate the required knowledge for teaching in technology. TPACK centers content, pedagogy, and technology knowledge and their intersections (Koehler & Mishra, 2009). Content knowledge is the disciplinary information that disseminated in the classroom; pedagogical knowledge is the instructional approaches and procedures teachers need to engage students for learning; and technology knowledge is broadly defined to be the understanding of how technologies can support the understanding of the world and can be iteratively adjusted as technology evolved (Koehler & Mishra, 2009). The intersections of these constructs include pedagogical content knowledge, the transformation of content to instruction; technological content knowledge, the understanding of how subject matter and technology restrict and effect each other; and technological pedagogical knowledge, the recognition of how technology can improve or impede learning in the teacher's classroom (Koehler & Mishra, 2009). Finally, technology, pedagogy, and content knowledge is a deep understanding of how the constructs interact and support learning (Koehler & Mishra, 2009).

TPACK provides a useful lens for understanding the development of skills needed to teach online because it provides a common language across different online settings and provides an evaluative tool for such programs (Moore-Adams, Jones, & Cohen, 2016). Developing TPACK for teaching online is complicated and research suggests the following domains would support their development: a) content, instructional strategies, and technology associated with the disciplinary domain; b) representations and models that can be enhanced through technology; c) recognition of common student disciplinary misconceptions and technology that can address them; and d) understanding of the curricular materials that leverage technology to increase student understanding (Niess, 2005).

Methodology

This study represents part of a case study (Creswell, 2007), previously reported on in Gates and Earls (2021) and Gaultier, et al. (2021). Four teachers who taught online during the COVID-19 crisis participated (see Table 1 for details). For this paper, we undertook a qualitative descriptive

analysis (Doyle et al., 2020) of 60–90-minute individual semi-structured interviews. Using this approach, we sought to address the **research question**, “What kinds of professional development experiences were provided and which were desired during the COVID-19 crisis?”

Table 1. Summary of participants and their contexts

ID	District description	Teacher Experience	Student grade level	Classroom context
1	Large, Urban, Northeastern	Novice	Early Elementary	Fully Online
2	Large, Suburban, Northeastern	Early Career	Late Elementary	Hybrid: face-to-face, online synchronous, and online asynchronous students
3	Small, Suburban, Northeastern	Early Career	Late Elementary	Hybrid: face-to-face and online synchronous students
4	Medium, Suburban, Northeastern	Mid Career	Late Elementary	Hybrid: face-to-face, online synchronous, and online asynchronous students

Results

The following section represents the results gleaned from the interviews. For the purpose of this analysis, passages that encompassed any aspect of professional learning, including curriculum suggestions, professional learning communities, and district support were included. These quotations were first divided according to whether it was a provided professional learning opportunity or a desired learning opportunity for the participating teachers. They were then sub-categorized according to the aspect of TPACK they supported, using the definitions in the literature review (Koehler & Mishra, 2009). Examples of selected quotations can be found in Table 2.

Table 2. Supporting quotations

Professional Learning	Aspect of TPACK framework	Quotation	Interviewee
Provided Opportunity	Technological pedagogical knowledge	[W]e had a lot of PD offered to us this summer, so we could sign up for training like a Google suite, we use Google for everything. This is a Google suite training which I was really comfortable with [...],but I had a lot of colleagues who learned a lot in that. There was training on Zoom. We have like our IT specialists are constantly emailing us like, “Hey, throw some ideas for this onto this Padlet.” “How are you using technology in your	2

		classroom?" There are the all of these like optional meetings, for if you're interested.	
	Technological content knowledge	Another we didn't end up using it for our kids because it wasn't applicable for them. But a math online platform was introduced to us and I thought it was great, but it just wouldn't have worked for them, unfortunately	1
	TPACK	A lot of it is embedded so like as curriculum is pushed out to us from the district [...] is the curriculum is pushed out to us from the district they'll say like here's a quick tutorial for teachers on. If you choose to do this format it's always like, if you want to do it, a different way that's fine but here's the format that we're suggesting if you choose to do it this way, we might recommend trying this or that because teachers have found it easier that way. Um, we're given, like a grid for what our plan is so [...] they have it coded so if it's a remote day. Or if it's a live day it'll tell us, and then they'll give us some options. [...] so here's some choices, you make they'll say like this is the high priority target for this week, and if that's not going to happen, or if that happens, no problem, you might move on to this, but I really appreciate that they have shown um where they're coming from and what they're familiar with already it'll say like in third grade here's what they did or here was a benchmark in third grade now they're trying to move on to this.	2
Desired Opportunity	Technological pedagogical knowledge	That you kind of need to figure out by jumping in and doing it, right. They also wanted us to start off with social emotional and not jump into the curriculum right away, which sounds great. But you're on a computer with kids for six hours so trying to create social emotional lessons. To introduce everybody and to get to know, everybody was really, really tough, I think it actually got better when we just jumped into our curriculum. Because there was a structure and there were books to follow and there was a book pickup day where everyone got their books and it became a little easier, as we went I was also naive, I thought I tried to teach myself peer deck and every piece of technology and thought	4

		the kids were going to be able to do it and go to it right away, and I learned very quickly.	
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Provided opportunities for professional learning

The teachers included in the study described receiving a great deal of support from both the district and their teaching peers. None of the participating teachers felt that they were not receiving adequate support from the district; however, some reported being overwhelmed by the possible professional learning opportunities.

The professional learning opportunities identified by teachers all fell at the intersection of the TPACK constructs. Teachers identified opportunities for technological pedagogical knowledge like introduction to content development programs. They described opportunities for supporting technological content knowledge primarily associated with asynchronous apps and games in a particular discipline. TPACK was described primarily as being supported by curriculum provided by the district which included both options for delivery and associated content supports.

Desired opportunities for professional learning

While the teachers identified a plethora of opportunities for professional learning, there was one area where they felt under-prepared, supporting the social-emotional needs of their students remotely. For the purposes of this study, we categorized this as technological pedagogical knowledge. In particular, teachers were asked to focus on classroom culture and supporting the social-emotional learning of their students early in the school year; however, they were not provided with specific skills or approaches for meeting these needs.

Conclusions

The districts represented by the participating teachers provided a good deal of support for the professionals in online teaching. The majority of the provided support focused on aspects of the TPACK Framework that occurred at the junctures of the three major constructs: content, pedagogy, and technology. And because research suggests that even teachers who deliver content online feel less comfortable with technology than other aspects (Archambault & Crippen, 2009), this approach seems appropriate. Further, this approach reflects the learning framework provided by Niess (2005). However, additional professional learning in the area of SEL was sought by the participating teachers. SEL and classroom culture have been shown to support student learning in the face-to-face classroom (Durlak et al., 2011), but these approaches do not instantly translate to the online context. And while there are some best practices being made available (e.g., Geesa, Robbins, & Shively, 2022), many of these require additional support for teachers to implement.

Educational Implications

Participating teachers described a rich array of TPACK-aligned professional supports provided during the onset of and ongoing crisis of COVID-19, suggesting that districts were providing some appropriate professional learning. However, teachers did not have the same support for SEL approaches, despite a focus on them from the school district. Both understanding best

practices for online learning and SEL at the elementary level and supporting professional understanding in this area are important foci for future study.

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