# **Shifts in Professional Development and PLNs Among Post-Remote Teaching Educators**

Dan He, Luke West, Vonda Morris, & Megan Crombie

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The pandemic greatly impacted education, including how educators approach professional development (PD) and the people, spaces, and tools they access for resources and support. Our survey study explored changes and continuity in PD and professional learning networks of education professionals from the school year 2019 to 2022. Our findings from the survey responses and interview data indicate that while some aspects have changed, others remain unchanged regardless of the impact of the pandemic.

### **Background**

With numerous changes emerging for educators in the COVID-19 era, K-12 and higher education educators have faced and overcome professional challenges in the early, mid, and "post" stages of a novel (and often remote) learning situation. Formally organized professional development (PD) training is considered indispensable for teachers' professional growth. However, during the pandemic, teachers were reportedly relying on informal PD activities on social media to enhance needed skills for flexibility, availability of resources, and access to supporting networks just in time (Macià & García, 2016; Greenhalgh & Koehler, 2017).

Within the K-12 context, the PD of educators is typically focused on content-specific learning, classroom management techniques, and pedagogical practices. Increasing demand for technology in K-12 classrooms has shifted the focus of many PD goals toward technology integration (Liao et al., 2017). A comparative analysis study showed K-12 teachers' positive shifts in the perceived usefulness of online PD (Liao et al., 2017). Similarly, educators in higher education (HE) also seek PD through social media across many disciplines, most notably education and humanities (Singh, 2020). Although several social media platforms, including Facebook, Academic.edu, Google+, and Research Gate, are used by academics, Twitter (now rebranded as X) remains the predominant social media platform. The use of X has been mostly concentrated on academic activities such as conferences, networking, information, and resource sharing, staying updated, and engaging in social commentary.

Krutka et al. (2017) propose the professional learning networks (PLNs) framework to describe the people, places, and tools that support and tailor educators' PD beyond conventional training. The benefits of PLNs have been well documented; however, little is known about how educators' PLNs evolve. Carpenter et al. (2021) conducted a follow-up study of their prior study (Trust et al., 2016). They found that more than 90% of educators indicated changes occurred in their PLNs between 2014-2018. The contributing factors include shifts in jobs, people or organizations, technologies, and interests/goals. The global pandemic has greatly influenced policies and teaching practices, creating a 'new normal' in education. It is crucial to explore how such external conditions have affected educators' support systems and their approaches to PD.

We aim to explore how educators' approaches to both PD and PLNs change across time periods (pre-remote, early remote, present). We use Krutka et al.'s (2017) PLN framework to guide this exploration and answer the research question: How has the pandemic influenced education professionals' approach to PD and PLNs?

#### Method

We used mixed methods to investigate post-remote PD and PLNs via survey and interview. The study was approved by the Institutional Review Board, and participants provided informed consent for the interviews. Eligible participants included K-12 and higher education teaching

professionals who had experiences teaching from pre- and post-pandemic (2019-2022). Recruiting information was disseminated via email and social media posting. This paper focuses on the findings from survey data, with quantitative data analysis to compare the frequency of certain PD opportunities and PLN activities over periods (pre-remote, early remote, present).

#### Results

We received 70 valid responses, with 45 educators working in K-12 and 25 in higher education. The average years of teaching was 15.51 years. Of the 45 responses from educators in K-12 or higher education settings, 17 participants took a follow-up interview. Among the 70 respondents, none reported being a novice in educational technologies, with 24.29% indicating competence or expertise and 51.43% proficiency. A steady increase was observed in the comfortableness of using technology to support educational activities for both settings across time.

#### Influences on professional development

The survey results indicate a strong inclination towards new learning opportunities during the pandemic, with 88.58% of participants agreeing or strongly agreeing that they sought new learning resources online, 63% of participants expressing a desire to continue building their online networks, 54.29% joining new teaching-focused groups online during the pandemic. Educators also shifted their engagement in their learning communities. Compared to the pre-remote period (or before 2020), the results show a decrease in passive engagement in the post-remote period (or after 2021), such as lurkers, from 32.14% to 25.23%, while the number of community leaders increased from 7.14% to 13.51%. Similarly, the number of networkers rose from 24.11% to 29.71% and content creators from 14.29% to 17.12%. In sum, these results highlight a significant shift towards more active and participatory PD, with professionals seeking new learning resources and engaging more proactively with the online learning community.

#### Influences on professional learning networks

While the survey findings showed varying degrees of change or continuity in the components of educators' PLNs, there's a growing trend toward the use of digital technologies and virtual interactions for professional networking and development. Regarding the tools, 55.71% of educators reported an increase in the number of tools they are using compared to 2020, while 40% reported no change and 4.29% reported a decrease. While 51.45% reported no change in the number of blogs, sites, hashtags, and e-newsletters they follow or visit compared to 2020, 41.43% reported an increase and 7.14% reported a decrease.

For the number of educators and people they connect with, 51.43% reported an increase compared to 2020, 44.29% reported no change, and 3% reported a decrease. The same trend was observed for the number of online groups and communities they join: 52.86% of educators reported an increase in their membership, 42.86% reported no change, and 4.29% reported a decrease.

Finally, there is a shift towards space they engage in PD, with in-person modality becoming less popular and online synchronous and asynchronous modality becoming more preferred. Before 2020, in-person PD was the most popular form of PD (38.24%), but during 2020 and after 2021, online synchronous and asynchronous modes increased in popularity, accounting for 44.12% and 35.90%, respectively.

## **Discussion and implications**

The research findings suggested that the pandemic impacted teaching professionals to varying degrees and in varying aspects, including increased engagement in pursuing PD and preference for online modality. Participants also reported positive changes in their approaches and attitudes towards self-directed PD, educational technologies, and teaching practices despite the challenging situation. Educators with strong and established professional networks and those having training in educational technologies before the pandemic reported a smoother transition.

Our findings have theoretical and practical implications. Theoretically, the research findings contribute to the literature on educators' PD and the PLNs amid challenges. This study highlights the impact of external and situational factors that compel educators to initiate self-driven PD, seek out ideas from their PLNs, or provide support to others within their PLNs. Building on Carpenter et al. (2021) regarding the evolution of educators' PLNs, our study provides unique insights into the impact of the pandemic on the change and continuity of educators' PLNs.

Practically, success stories revealed that educators are encouraged to draw on different PD opportunities and take active roles in developing and maintaining their professional networks to glean the benefits of participatory culture. Meanwhile, educators should also be mindful of the work required outside of the classroom for self-driven PD online; it may bring fulfillment in the short term but may create additional digital demands or even lead to burnout. Finally, institutions should consider ways to compensate for those professional activities if formally organized PD is not offered or does not meet educators' needs

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