

# Enriching Professional Learning Networks: A Framework for Identification, Reflection, and Intention

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**Abstract** Many educators in the 21st century utilize social media platforms to enrich professional learning networks (PLNs). PLNs are uniquely personalized networks that can support participatory and continuous learning. Social media services can mediate professional engagements with a wide variety of people, spaces and tools that might not otherwise be available. Teachers who once might have had access to only a handful of colleagues can now employ Facebook, Twitter and other mediums to learn from peers across the globe at any time. However, educators face numerous challenges building and enhancing their PLNs for professional growth. To support educators in the development of their PLNs, we present a framework for PLN enrichment. Rooted in our research and experiences with PLNs, this flexible framework is designed to help educators reflect upon how they might continuously improve their PLN experiences and outcomes.

**Keywords** Professional learning networks · Social media · Professional development · Participatory media · Teacher education

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The rise of social media platforms has created new spaces for educators to learn with and from each other. These professional engagements can be liberating, provocative and confounding – sometimes all at the same time. While educators have long learned from colleagues at their own institutions, the path forward in the online spaces that help make up professional learning networks (PLNs) can be nebulous. While we, the authors, have used social media professionally for years, and have grown from such experiences, we have each also proceeded at times without the mindfulness or critical lens necessary to take full advantage of our online activities. For example, we have found ourselves on different occasions interacting online only with culturally or ideologically similar colleagues; failing to evaluate the quality or sources of ideas and resources; and neglecting consideration of the impact of our PLNs on our students' learning. Discussing our own PLNs and researching the topic have caused us to consider how educators might deepen their PLN experiences. We asked, how can individuals, departments, schools and districts encourage effective PLN engagements? In an effort to support educators, we have followed up upon our recent empirical research (Trust, Krutka, and Carpenter 2016) to develop a reflective framework for PLN enrichment that can assist teachers as they seek to improve in their craft.

## Teacher Learning & PLNs

Many researchers agree that teachers need ongoing learning opportunities and professional development (PD) activities in order to improve their practice and positively influence students' learning (Darling-Hammond, Wei, Andree, Richardson, and Orphanos 2009; Kennedy 2016; Timperley and Alton-Lee 2008; Van den Bergh, Ros, and Beijaard 2014). In school settings, teachers often attend formal

professional development activities, such as workshops, lectures and seminars, to learn how to improve their teaching. Some schools and districts also encourage teachers opportunities to attend graduate courses or conferences to expand their skills and develop expertise. However, these forms of traditional professional development have been criticized for failing to honor and account for the agency, motivations and needs of teachers (Borko 2004; Boston Consulting Group 2014; Kennedy 2016).

Considering the shortcomings of traditional PD, some teachers access their professional learning networks to meet their professional interests, goals and needs. PLNs are uniquely defined systems of interactions made up of people, spaces and tools that support learning and professional growth (Trust, Krutka, and Carpenter 2016). While traditional professional development activities are part of PLNs, educators' PLNs often extend well beyond the formal learning experiences offered by their schools or districts. Teachers also participate in informal learning activities, such as engaging in conversations with peers, observing colleagues' classrooms, attending Edcamp unconferences, participating in Twitter chats or writing reflective blog posts. In particular, teachers have started using social media to extend their PLNs beyond local contexts by connecting and collaborating with educators located in different states or countries.

In our recent research (Trust, Krutka, and Carpenter 2016), we asked P-12 teachers to define their PLNs, and their 537 responses were distinguished by their variety. For example, a U.S. high school special education teacher shared, "My PLN consists of my co-teachers, department, and the growing community of educators I connect with online (and a lot of times in person through edcamps, etc)," and a high school geography teacher from the United Kingdom commented, "My PLN is a mix of fellow teachers, educators, businesses that link to schools or topics I teach. I network through Twitter, Facebook, LinkedIn, Google+. I blog on wordpress. These plus face-to-face events, like Teachmeets." Teachers' PLNs uniquely reflected their professional interests, needs and goals. However, we did identify common components of PLNs evident in most participants' responses: people, spaces and tools.

### People

The P-12 teachers in our study described diverse types of people in their PLNs, including colleagues, administrators, students, parents, professors, authors, politicians, various non-educators and thought-leaders. In contrast to the isolation historically associated with teaching (Lortie 1975), networked technologies such as social media mean that educators today have opportunities to collaborate, exchange professional knowledge and enhance their practice with a wide range of people beyond those they already know from face-to-face settings.

### Spaces

Educators can also benefit from engaging in a variety of face-to-face, online and blended spaces. Affordances of social media platforms allow educators to transcend typical temporal and spatial boundaries to interact with colleagues around particular interests (Gee 2004; Johnson 2001). Whether educators choose to engage in synchronous Twitter chats or asynchronous Edmodo subject communities, these spaces offer new opportunities for professional development. Recent research suggests that educators use online spaces in order to find and share professional knowledge, overcome feelings of isolation, receive emotional support, seek out help and connect with people beyond of their face-to-face networks (Trust 2012, 2013; Carpenter and Krutka 2014, 2015; Hur and Brush 2009; Kelly and Antonio 2016; Seo and Han 2013; Visser, Evering, and Barrett 2014). Many educators do not draw distinct lines between their online and face-to-face activities as they combine and integrate these spaces and the associated interactions within their PLNs (e.g., Matzat 2013). For example, some Twitter-using educators attend unconferences (Carpenter and Linton 2016) where they meet face-to-face with long time Twitter colleagues and encounter new peers with whom they may continue conversations online long after the event ends.

### Tools

By engaging in PLNs, teachers are able to access a variety of tools – including information, ideas, resources, skills and habits – that they use as they grow their practice (Trust, Krutka, and Carpenter 2016). Our use of the term *tools* does not simply refer to instruments or machines that teachers might use to accomplish a task, but also ideas, skills and habits that educators can draw on to improve their teaching and their students' learning. For example, teachers might learn from their PLN about the best apps for assessment or language translation. Or, educators might access from PLN colleagues new approaches to inquiry, which could change the way they facilitate class discussions. Simply engaging in ongoing and informal learning with their PLNs can develop learning habits that could reposition teachers as co-learners with students. PLN engagements can result in teachers' identifying various apps, skills and approaches that help them meet their personalized and contextual aims.

### Benefits of PLNs

In many cases, 21st century connected educators approach learning in ways that are distinguished by their constancy, collaboration and common interests (Thomas and Brown 2011; Jenkins, Purushotma, Weigel, Clinton, and Robinson 2009). Due to the asynchronous nature of many online

interactions, teachers can join in educational conversations at anytime and from anywhere. Educators can shape their network of peers, spaces and tools to meet personal needs in ways that are less easily accomplished in traditional PD settings. If a teacher needs a digital tool, advice or feedback, there are numerous online affinity spaces where they might find experienced, creative and thoughtful colleagues with whom to engage. In some cases, advice may help gradually shift a teacher's professional thinking on a topic, and in other cases, an educator might acquire tools that can be immediately applied to a classroom setting. Teachers' engagements within PLNs can create opportunities for social, situated, continual and constructivist learning, which a number of researchers have identified as essential components of effective teacher PD (e.g., Desimone 2009; Timperley and Alton-Lee 2008; Van den Bergh et al. 2014).

PLNs can also complement and extend traditional professional development learning experiences. While conventional PD (e.g., workshops, seminars, courses) often focuses on content knowledge (Kennedy 2016; OECD 2014) and grants little autonomy to participants (Boston Consulting Group 2014), the self-directed nature of PLNs allows teachers to grow in a variety of directions. Teachers in our recent research suggested that PLNs supported their professional growth in one or more of the following domains: affective, social, cognitive and identity (Trust, Krutka, and Carpenter 2016). For example, teachers reported affective growth from PLN engagements because their experiences incited excitement about, confidence in, and ownership of their teaching and learning. One teacher said of her PLN, "I've always been a lifelong learner but with the wealth of information, points of view, and technique suggestions, my own work has had a resurgence of excitement." Multiple teachers reported that their PLN activities supported social growth, which included reduced isolation, connecting and collaborating with people beyond school or classroom walls and accessing diverse perspectives and ideas. Respondents in our sample noted cognitive benefits that included acquiring new knowledge and developing intellectual skills like reflection. A number of educators credited their PLNs with shifting their professional identity to see students and themselves as lifelong learners. It seems clear that PLNs can help teachers grow in various ways. There has, however, been little theoretical or empirical investigation into ways to support, sustain and sharpen PLN experiences.

## Understanding PLN Experiences

In our previous study, teachers reported gaining wide-ranging and diverse benefits through their PLN interactions. However, even though our findings indicated that there were clear positives to utilizing PLNs, many educators could further benefit

by purposefully identifying their PLN activities, reflecting upon them and being intentional about planning how to enrich their PLN experiences. Like many practices that become routine, educators utilizing PLNs may on occasion benefit from stepping back from their PLN activities to reflect on whether they are meeting their professional needs and aims.

Educators can begin this process by identifying the people, spaces and tools in their PLNs. When asked to describe their PLNs, our participants' answers varied widely. A few teachers listed a single space or specific group of people (e.g., "My PLN consists of another elementary librarian and myself. We meet monthly to plan and email daily"), while others described multifaceted PLNs that included face-to-face and virtual interactions. For example, a U.S. elementary school teacher wrote:

My PLN is mostly teachers, education support staff, and administrators. I use Twitter mostly but have also connected via Google + and even Facebook. I also enjoy attending educational conferences, especially UCET (ucet.org), SUECON (suecon.org), EdcampUT (ucet.org/edcamp) and URSA (ursa.k12.ut.us). I'm hoping to get to an ISTE (iste.org) in the future as well. Too many blogs to list them all...#UTedChat. #EdChat, #KidsCanCode, #EdTechChat, #4thChat, #WeirdEd, etc..."

This participant identified numerous people and spaces that helped him refine his craft. PLNs can be simple and local, expansive and multifaceted, and anything in between. There is no one right way to cultivate a PLN. However, by identifying and reflecting on their PLNs, teachers may discover that, given their own specific purposes, their PLN consists of so many spaces or people that they are stretched too thin to implement new ideas in the classroom. Or on the other hand, teachers may realize they are not connecting with the types of people who can help them meet their professional needs. Without scaffolded analysis of their PLNs, educators could miss out on potentially beneficial PLN activities beyond their habits or norms.

A number of our participants also struggled to articulate the impact of their PLNs on their practice and student learning. More than half of our participants' (58%;  $n = 259$ ) descriptions of how their PLN activities shaped their teaching included at least one vague comment (e.g., "Just adding and or trying different things to see if they work" or "My teaching has changed because I see all of the great things going on in education"). A few of the respondents noted that they were unsure of the impact of their PLN activities on their practice or student learning (e.g., "This is a new practice so the long term outcome is unknown"). And, some participants also reported that they had not yet evaluated how their PLN experiences shaped student learning (e.g., "I have not had much

opportunity to assess the direct impact to student learning”). The complexity of PLNs can make it challenging for educators, school leaders and researchers alike to make a clear connection between PLN activities and changes in teaching practice or student learning.

However, several findings from our PLN study suggested that educators might benefit from improving components of their PLNs. Because many of our participants engaged in only one or two ways of learning with their PLNs (e.g., finding professional knowledge, experimenting, sharing), defined their PLNs very differently, and struggled to articulate the impact of their PLNs on teaching and learning, we determined that a framework might help educators enrich their PLN experiences. Although self-directed modes of learning offer many advantages for adult learners, an external nudge can sometimes provide helpful impetus for further growth. Moreover, reflection has long been central to teachers’ improvement (Schön 1987), and as Dewey (1933) contended, “active, persistent and careful consideration” can help refine future actions (p. 9). Thus, we agreed that there was a need for a framework that could help educators both enhance and document PLN experiences.

Based on the data from our research (Trust, Krutka, and Carpenter 2016) and our own PLN experiences, we drafted multiple versions of the framework that follows. We collaboratively discussed the strengths and weaknesses of different versions and selected the one that best reflected the successes,

shortcomings and ambiguities evident in our data. We engaged in member checking by sharing a draft of the framework with a diverse set of educators from K-12 and higher education institutions across the country, and eleven provided us feedback that informed the final version of the framework presented below.

### PLN Enrichment Framework

Our PLN enrichment framework (see Table 1) consists of three columns focusing on the components of PLNs (i.e., people, spaces and tools) and three intersecting rows (which encourage analysis (i.e., identification, reflection and intention). The purpose of the framework is to offer educators a flexible tool for considering what has happened, and what they would like to happen, in their PLN experiences. However, attempting to analyze a phenomenon as complex as PLN experiences *in toto* can be overwhelming. We therefore isolated components of PLNs so teachers might specifically focus on different aspects of their PLNs. While the framework might appear to offer a linear, one-time worksheet, this is only for the purposes of introducing and simplifying what is undeniably a complex process. Our framework is meant to be flexible and recursive. Educators might reflect deeply on a single question or column because it is relevant to their current issues, but they also could return to the framework regularly. As educators and their PLN

**Table 1** PLN Enrichment Framework

	People (e.g., educators, authors, scholars, organizations, and others with whom I interact)	Spaces (e.g., face-to-face, online, blended, formal, informal)	Tools (e.g., resources, skills, ideas, teaching strategies, curriculum materials, websites, education philosophy, habits)
Identification <i>What is my PLN?</i>	Who are the people in my PLN?	In what spaces do I engage in PLN activities?	What tools do I acquire by engaging in PLN activities?
Reflection <i>How does my PLN shape my professional growth?</i>	Which people most contribute to my professional growth? <ul style="list-style-type: none"> <li>• With whom, how many people, and how often do I share and engage?</li> <li>• Which people or perspectives are missing from my PLN?</li> <li>• How do I interact (e.g., mentoring, collaborating, sharing, engaging in conversations) with others in my PLN?</li> </ul>	Which space(s) are most conducive to my professional growth? <ul style="list-style-type: none"> <li>• Which spaces best cultivate meaningful engagements, relationships and community?</li> <li>• In which spaces have I not yet engaged that might be beneficial?</li> <li>• How do the design of these spaces (e.g., character limits, algorithms) inhibit or enhance interactions and growth?</li> </ul>	How do the tools from my PLN contribute to my professional growth? <ul style="list-style-type: none"> <li>• How do I evaluate and organize the tools that I learn about via my PLN?</li> <li>• How am I experimenting with tools in my PLN?</li> <li>• How do these tools, contribute to students’ learning?</li> </ul>
Intention <i>What are my PLN goals?</i>	With whom should I engage to enhance my professional growth? <ul style="list-style-type: none"> <li>• With which people should I deepen, enhance, or decrease interactions and relationships?</li> <li>• Which people might I add to my PLN -- including those with different perspectives or backgrounds -- to enrich my learning?</li> </ul>	In which spaces should I engage to enhance my professional growth? <ul style="list-style-type: none"> <li>• In which spaces should I dedicate more or less time and energy?</li> <li>• What new spaces should I seek out to advance my learning and that of my students?</li> </ul>	What tools can best contribute to my professional growth? <ul style="list-style-type: none"> <li>• What tools from my PLN do I need to further explore to advance my learning?</li> <li>• What new tools am I going to seek out to advance my students’ learning?</li> </ul>
Action Steps			

activities change, their uses of the framework are also likely to shift.

By identifying their PLN experiences and activities, teachers can become more mindful of the people, spaces and tools that shape their learning experiences. Teachers can then reflect, and critically examine, how their PLN activities shape their teaching and learning. Reflection (Dewey 1933; Schön 1987) has long been considered integral to teacher effectiveness and satisfaction, but it can easily be neglected in the midst of the many demands placed upon educators. Finally, teachers can move towards professional needs, interests, and goals by intentionally modifying their plans for engaging with their PLNs. Being intentional is important for educators, as it can be hard to break entrenched patterns in teaching and other professional behaviors (Langer 2016).

For example, many educators utilizing PLNs may simply “friend” or “connect with” fellow educators on Facebook or Edmodo without considering whether an individual contributes to their learning. They may also only seek out like-minded or culturally similar colleagues, which could limit perspectives that might lead to the dissonance required for meaningful growth. Therefore, educators may be able to refine their PLN experiences by asking questions about the people in PLNs like: *Who are the people or organizations in, or absent from, my PLN? Which of these people most contribute to my professional growth? With whom should I engage to enhance my professional growth?* Questions such as these should assist educators as they re-think the role that, in this case, *people* play in their PLN experiences.

Once educators have thoroughly considered the various components of their PLNs then they can identify action steps for improving future experiences. These questions may lead a teacher to unfollow or follow people on Twitter, add educators to a list which they may follow more closely, or simply reconsider what types of people contribute most to their growth and teaching. Of course, because PLNs are perpetually shifting, educators could benefit from returning to this framework regularly.

### Using the PLN Enrichment Framework

We designed this enrichment framework for multiple potential uses that might meet the diverse and multifaceted PLN needs of educators. We will discuss some of the ways in which the framework can be employed, but we encourage readers to consider variations on, and extensions of, these uses that are appropriate to their needs and contexts. We have added additional printer-friendly and editable versions of the framework which educators can tailor to their distinct purposes on our website ([www.professionallearningnetworks.com/framework](http://www.professionallearningnetworks.com/framework)).

Because our framework is informed by our previous research concerning teachers’ PLN uses (Trust, Krutka, and Carpenter 2016), it offers educators a window into the benefits and challenges others have identified with their PLNs. Educators who complete the framework might also find a mirror for reflection upon their PLN activities, which can help them identify successes and areas for growth in their PLN uses. After recognizing what they are doing and not doing with their PLNs, teachers can reflect on PLN uses and formulate plans for utilizing their PLNs going forward.

### Use by and with Educators and Mentors

Some educators may identify ways in which to enhance their PLNs simply by reading through the reflective framework and responding to our questions. However, in keeping with the spirit of participatory learning that often characterizes social media spaces (Jenkins et al. 2009; Thomas and Brown 2011), sociality often encourages deep learning (Vygotsky 1978). While educators may be able to identify some areas in which they need to improve their teaching, they can also fail to see blindspots. Our framework could be used in a multi-stage process of engagement similar to a think-pair-share activity. Educators might begin by individually considering and formulating answers to questions in the framework. Next, educators could share their initial thoughts and answers with trusted colleagues who are familiar with them and/or their PLNs. Finally, educators might identify and share key ideas that emerged from thinking through the framework with colleagues from their grade level team, department or members of their online PLN, and gather feedback to establish informal accountability for engaging in action steps to enrich their PLNs.

Exploring the framework with colleagues might yield new ideas and reflections regarding one’s own PLN and areas for potential enhancement. Educators may also learn from colleagues about new people, spaces or tools to add to their PLNs, and these interactions could lead to new conversations, projects and collaborations. For example, a mentor might introduce a colleague to a new Twitter hashtag relevant to their interests, or a grade-level team might decide to collaborate on creating a Pinterest board to gather resources. Educators’ PLN activities, and discussions about these activities, can result in the sharing and cross-pollination of new, innovative and critical ideas across school, district, state and even national lines.

### Administrators and the PLN Enrichment Framework

While PD experiences in schools have often been hierarchical affairs planned by administrators and done to teachers, engagement around PLNs offers opportunities for more organic and collaborative interactions. Within social media spaces, administrators and classroom teachers can address key

educational questions together (Carpenter and Krutka 2014; Visser, Evering, and Barrett 2014). We therefore believe that educators, administrators and supervisors should approach using our PLN enrichment framework in their schools or districts with this collaborative approach in mind as they identify goals or strategies for professional growth within their local contexts. Teachers and supervisors might consider supplementing our framework with additional questions or prompts relevant to their schools and communities. For example, an administrator seeking to build closer relationships in the community might ask teachers, how does your PLN connect with our local community?

Administrators can support educators' PLN endeavors through the use of our framework by creating time and space for reflection on PLN activities and empowering teachers through the process. Building the time and space for PLN discussions as part of professional development can encourage teachers to engage in systematic and deep reflection. Administrators could provide educators examples of completed frameworks and even offer PD credit for completion of the framework in ways that benefit individual teachers or position them as leaders. Administrators might also seek out connected educators in their schools to provide leadership in the use and implementation of our PLN enrichment framework.

Our PLN enrichment framework can also be used to document, legitimize, or honor PLN activities. In some cases, connected educators who are innovative, inspired or early adopters may find themselves working for institutions whose professional development policies do not honor their dedication to growing in their craft through social media and other relatively new interactions. However, it would be contrary to our intentions and a misuse of the framework for a supervisor to unilaterally apply it as a rubric to summatively evaluate the PLNs of those working for them. Administrators must support reflection and intention without corrupting or bureaucratizing the voluntary, participatory cultures which attract educators to informal learning in the first place (Jenkins et al. 2009). Well-intentioned supervisors should be aware that attempts to scale up PLN activities could easily backfire. If PLNs become seen as a top-down requirement, rather than a learner-driven endeavor, they will likely lose much of their appeal in the eyes of educators. Moreover, administrators should work with educators to create any structures for feedback or recommendations, and they should also be particularly wary of rigid, one-size fits all approaches to PLN enrichment.

Lastly, administrators should seek out teachers as experts with specialized knowledge of various PLN spaces, peoples and tools. While many PLN activities take place in social media spaces, administrators should not assume that younger, supposedly "digital native" educators will intuitively know how to leverage social media for learning purposes (Carpenter 2015). Some research has indicated that middle career teachers can be the most intense users of social media

for professional purposes (Carpenter and Krutka 2014; Trust, Krutka, and Carpenter 2016; Visser, Evering, and Barrett 2014).

## Conclusion

The social media landscape is still relatively new and constantly shifting, and it is therefore critical for educators to be aware, reflective and intentional about how they use such media in their professional learning. We hope our flexible framework will empower teachers to pursue their interests mindfully and, as a result, better advance both their own learning and that of their students. Social media has shown the capacity to have a meaningful impact on many domains of life such as politics, marketing and charity-fundraising, and boyd (2014) goes so far as to assert it is "at the heart of contemporary culture" (p. 6). Educators who ignore these media do themselves, their students and their profession a disservice. By leveraging social media to develop PLNs, teachers have new opportunities to combine the "dynamic duo" of collaboration and technology to advance their growth (Berry 2015, p. 51). However, without scaffolding, many educators may miss opportunities for growth available via PLNs. Without encouragement to reflect, it can be easy to remain unaware of what we do not know, or need to better understand.

Our enrichment framework can help push educators to consider areas for enhancing their PLNs' impact on teaching and learning. Furthermore, at a time when many educators believe their voices are not often factored into educational decision-making (Boston Consulting Group 2014; Rentner, Kober, and Frizzel 2016), social media and PLNs can offer teachers opportunities to find larger audiences for sharing their experiences and perspectives. Many ambitious teachers are engaging in social media and developing PLNs, and we hope our framework will support their dedication to the profession.

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