CHAPTER 8

Opening Educators' Social Learning Ecologies: Conceptualizing Professional Learning across Public and Private Boundaries

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For years, the professional lives of many classroom educators have been stretched across public and private contexts, leading to conflict, incoherence, and, at times, a privatization of teaching practice. Despite varied and ongoing reform efforts in the United States, many aspects of teachers' pedagogy, peer networks, technology use, and professional development have become situated at the nexus of intersecting public and private boundaries; teachers are expected to navigate open and closed systems, to be connected while remaining isolated, and to collaborate in innovative ways while being held individually accountable for conventional standards. To better understand public, private, and deprivatized dimensions associated with educator practice – and to ascertain the promise of more open educational practices and educator learning opportunities as a response to such boundary-crossings – this chapter suggests that a *social learning ecology* (SLE) (Ching, Santo, Hoadley, & Peppler, 2014) is a useful framework affording expansive and open learning pathways for educators. Educator SLEs are comprised of the people, places, technologies, and resources that educators access and connect with as they learn and develop their teaching practices. Conceptually, educator SLEs are understood from an ecological perspective on learning which posits that learners influence and are influenced by interactions with other people, proximal and distal learning resources, and their preferred modes of communication, sharing, and participation (Barron, 2004, 2006). In light of varied and increasingly public commitments to open educational movements and practices (Cronin, 2017; Jhangiani & Biswas-Diener, 2017), it is prudent to interrogate the range of public and private boundaries endemic to educators' professional lives by mapping the distributed ecologies of social relations, resources, and settings relevant to educators and their professional agency.

In this chapter, we are interested in more open or *deprivatized* educational practices, such as elements of teaching and learning that are accessible to different publics for observation and critical review by invitation or context. We contrast open educational practices with private practices, or those practices

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which are not openly shared due to cultural norms, individual choices, proximity, or other factors, such as sociopolitical contexts, security of employment, and social group membership. Notably, individual educators' practices may waver along a continuum of deprivatized (or open) and private depending on context, the nature of the practice, or lack of recognition that a continuum across public and private boundaries exists. By conceptualizing and describing educator SLEs, we assert that educators can name, access, and more purposefully navigate newly articulated open learning pathways so as to deprivatize – and more openly share – their practices. This chapter presents key concepts related to educator SLEs, offers a theoretical framework for educator SLEs, and describes how educators might use such a construct to better understand, access, and navigate public-private tensions and open their practices, becoming increasingly deprivatized.

Why are we motivated to discuss and describe educator SLEs? Consider, for example, how public and private boundaries influence educator social capital and connectedness (Bridwell-Mitchell & Cooc, 2016) as but one indicator of engagement with open educational practice. Imagine an early career educator who received her teaching license via an alternative certification program and teaches in an under-resourced urban school. Each morning, after her students arrive, she, like most teachers in the school, literally – and figuratively – closes the door to her 7th grade geometry classroom. Closing the door is partly habit and part cultural norm. The closed door allows for a quieter learning environment for students by limiting distractions from an often disruptive hallway. Yet it also places a barrier to informal observation by veteran peers. Among colleagues at school, she has forged little social capital, whereas via public social networks, like Twitter, she is able to openly share about teaching, learn about new strategies, and gather resources (Carpenter & Krutka, 2015; Rehm & Notten, 2016). She knows it is beneficial to connect students' lives and interests from outside of school with activities inside her classroom (Garcia, 2014). Through the social capital and connectedness of a digital network, this novice educator has expanded her repertoire of teaching strategies to better connect teaching and learning opportunities across formal and informal, community and classroom boundaries (Ito et al., 2013). Professional learning, for this educator, means building social capital outside the immediacy of her workplace. Indeed, she has experienced stronger connectedness with educators in her distributed social network than with colleagues down the hall.

As another scenario about open practice and professional learning, consider a different set of public and private boundaries that a team of fifth grade educators traverse as they engage in continuous improvement. These educators are focused on responsiveness to student needs and are eager to collaborate about

effective instructional practices and lesson designs. These educators routinely open their classrooms to one another for informal peer observations. This requires that they make themselves vulnerable as they work through challenging situations, and that they openly admit when they have not been successful. They maintain a grade-level website for shared resources, and willingly invite their principal and building literacy coach to observe lessons and offer feedback, trusting that both understand how the team is adapting the district's curriculum to meet learner needs. With their trusted colleagues, these educators confidently open their classrooms. However, they also close their doors, take fewer risks, and superficially adhere to district-produced curricula and pacing documents when district or state administrators enter the building or request student achievement data. Years of experience, as well as a steadfast commitment to meet their students' needs and protect aspects of their students' privacy, lead these educators to share only what they believe outside leaders want to see. Thus, in response to the political context of their school district, they do not openly discuss efforts to innovate beyond their school walls.

These hypothetical examples illustrate tensions and opportunities of open educational practices within real-world constraints; as educators move across a continuum of public and private boundaries, where, with whom, and how do they open their practice in service of both professional and student learning? As professionals cross and blur boundaries, they encounter unfamiliar territory, engage in fluid identity construction, and synthesize 'ideas, concepts, and instruments from seemingly unrelated domains into the domain of focal inquiry' (Engestrom, Engestrom, & Karkkainen, 1995, p. 321; see also Akkerman & Bakker, 2011; Trent, 2013). While educators, like those in the previous two scenarios, can be proactive in finding needed ideas and supports in different contexts, like face-to-face and digital communities (Vescio, Ross, & Adams, 2008), the fluidity, conflict, and risk endemic to both situations is neither uncommon nor unrealistic. Norms of privacy in schools often do not support educators in reaching out to peers for substantive conversation (Coburn, Mata, & Choi, 2013). Privatized educational practice – or a closed stance toward openly sharing aspects of professional knowledge and knowhow – can, in part, be traced to the compartmentalized nature of the school itself (Boreen & Niday, 2000), and a longstanding norm of educator isolation coupled with high degrees of autonomy and limited opportunities for collaboration (Mawhinney, 2008). Historically, educators have struggled to share their expertise and challenges with peers, and are seldom fully aware of their colleagues' strengths, areas for growth, and beliefs about teaching and learning. Information about colleagues' teaching practice is often gathered second-hand and is typically incomplete, filtered, and presented in such a way

as to not expose vulnerabilities. Given the choice between working in isolation, as with a closed-door policy inside school, or engaging in more public and open collaboration with a (distributed) peer network, it is understandable that educators who crave a more open learning environment may look beyond their immediate school colleagues for professional learning networks across settings (e.g., Duncan-Howell, 2010; Krutka, Carpenter, & Trust, 2016). At the same time, shifting public and private boundaries across both physical and digital spaces may result in educators strategically limiting access to their classrooms, students, and evidence of learning as a means to limit surveillance and maintain classroom-level decision-making, suggesting contested and complex qualities are associated with professional learning communities (Watson, 2014). Educators differentially experience tensions associated with who gets to participate – free of personal or professional risk – in certain open learning opportunities and arrangements.

These two scenarios suggest that public-private tensions associated with teaching practices, participation across professional settings, use of tools, and social relations collectively position educators in contrived and contested open configurations. Who are the publics in these scenarios – students and their families, or educators in the same school, or educators in a shared social network, or the taxpayers who fund public schools? What are the benefits of privacy in these scenarios – for student learning, for the design of learning environments, or for educator risk-taking and reflection on their teaching practice? And what are the boundaries, both known and unknown that educators traverse if inclined to open their teaching practices? Amidst the difficulty of navigating public-private tensions, educators are often forced to eschew consent – over curricula and what they teach, or over the use of certain technologies, or over the transparency of data (or lack thereof). Through no fault of their own, the limited capacity of educators to name – much less access and navigate – pathways through public-private tensions can lead to limited or superficial educator agency (Webb, 2006). As one response, we suggest there is a need to conceptualize and describe how educator SLEs can help to shape both their practices and their own professional development. This chapter advances an ecological orientation toward open education, or a perspective on openness that is responsive to the ways in which teaching practice, tool use, and personal and professional interest flow across distributed social relations and settings.

This chapter will explore theory, literature, and professional commitments associated with SLEs as a framework relevant to deprivatizing and opening educator practice. We adapt the construct and definition of a SLE from the youth development literature (Ching et al., 2014), and suggest educator SLEs are an assemblage of individuals, material resources, knowledge-building

practices, technologies, and other proximal and distal supports that span multiple settings and can sustain open educational practices. First, we will interpret educational openness from an ecological perspective on learning (Barron, 2004) and educator development (Jurow, Tracy, Hotchkiss, & Kirshner, 2012), complemented by a review of literature about deprivatizing educator practice, collaboration arrangements, and educator networks. Second, we will present a theoretical framework for educator SLEs, and will describe how educators might use such a construct to map, access, and navigate public-private tensions. Key to our framework is an articulation and multiple visual representations of the ways in which teaching practice can span material and digital settings, how educators may connect with peers to support their interest-driven and professional learning, and the ways in which material, technological, and conceptual resources are accessed and utilized across public and private contexts. Finally, our chapter concludes with a discussion about the importance of defining and mapping educator SLEs, implications for the design of professional development, and the role an educator's SLE can play in navigating pathways across public and private boundaries toward more open professional practices.

1 Open as Ecological Perspectives on Teaching and Educator Learning

As Cronin (2017) suggests, 'Engaging with the complexity and contextuality of openness is vitally important if we wish to be keepers not only of openness but also of hope, equality, and justice' (p. 11). The previously described public and private boundaries crisscrossing learning environments indicate that the complexity and contextuality of openness can constrain the capacity of educators to be such equity-oriented 'keepers' for their students, colleagues, and also for broader publics. New models of – and strategies engendering – openness are necessary so as to address deeply rooted tensions in the professional lives of educators, and to also deprivatize teaching practices. As a novel contribution to ongoing developments in both open pedagogy (DeRosa & Jhangiani, 2017) and open education (Havemann, 2016), we suggest ecological learning perspectives are a promising means of engaging with the complexity and contextuality of openness in teaching and educator learning.

Ecological perspectives on learning and development, while not new (Beach, 1999; Bronfenbrenner, 1979), have recently garnered renewed interest given research suggesting connections among formal schooling and informal, out-of-school, and interest-driven learning contribute to more equitable learning environments and outcomes (Bevan, Bell, Stevens, & Razfar, 2013;

Greenhow, Robelia, & Hughes, 2009; Ito et al., 2013). Such connections emerge due to the ways in which individuals move across learning ecologies, or 'the set of contexts found in physical or virtual spaces that provide opportunities for learning' (Barron, 2006, p. 195). These settings can include a learner's home, school, community, work, and neighborhood, as well as distributed resources such as online environments and social networks. Each of these settings is also 'comprised of configurations of activities, material resources and relationships' (Barron, 2004, p. 6). From an ecological perspective, Putnam and Borko (2000) suggest educator learning may be situated amongst classroom, school, discourse, and technology-mediated settings. By emphasizing the importance of 'examin[ing] more closely the question of where to situate teachers' learning' (p. 12), they challenge educators, teacher educators, and researchers to redefine how educators learn, and what educators come to know and do when their professional learning spans settings. Our interest in open educator learning and deprivatized teaching practice is motivated by growing research about how adults, whether driven by interest or professional responsibility, pursue learning opportunities across distributed ecologies of settings that are embodied and digital, saturated with material and ideational resources, and are supported by peer relations (Garcia, 2014; Hollett & Kalir, 2017; Krutka, Carpenter, & Trust, 2016).

In embracing an ecological perspective on learning, we find that three themes in the literature about teaching and educator professional learning demonstrate the relevance of a distributed, socially situated, and technologically-mediated interpretation of educational openness. Our interest in deprivatizing practice, collaboration arrangements, and educator networking collectively glimpse ecological aspects of open education and open educator learning. We consider these trends in the literature of central importance to a fuller articulation of why ecological perspectives are necessary for opening educators' professional learning pathways.

2 Deprivatizing Practice

Historic and contemporary efforts to deprivatize – or open – teaching practice suggest an ecological perspective on open education may be generative for educators, their colleagues, and their schools. Decades of education reform, driven both from top-down mandate and bottom-up advocacy, have privileged the creation of more open learning environments across varied settings (i.e. classroom vs. school) and scales (i.e. school vs. district), through experimentation with pedagogical configurations (Fullan & Langworthy, 2014; Scott, 2015),

team and collaborative teaching structures (Meehan, 1973), shared responsibility for smaller 'houses' of students within larger schools (Cotton, 1996), and the open classroom models and architecture of the 1960s and 1970s (Cuban, 2004.) More recently, efforts to support and sustain professional learning communities, defined as a team of educators who regularly engage in focused, active learning to improve their professional practice in service to student learning (Hord, 2009), have been interpreted as an effort to create more open connections among educators about their teaching practices. DuFour (2004) advocated that professional learning communities galvanize intentional efforts to deprivatize – and open – teaching and create collaborative educator and school cultures focused on student learning. Deprivatized educational practices may include shared activities related to how educators work together and conduct their classes, share lessons, or plan common projects (Kougioumtzis & Patriksson, 2009). Other examples of activities leading to deprivatized educational practices include the use of protocols for transparent and shared decision-making, and systematic record-keeping to inform colleagues about one another's work (Vescio, Ross, & Adams, 2006).

A persistent challenge to open education may be a tendency for formal schooling to reinforce the privatization or, at best, the guarded openness of teaching practices (Kougioumtzis & Patriksson, 2009; Webb, 2006). Professional learning commitments, educator collaborative practices, and even a school's built-environment can contribute to educator isolation and privatized – rather than open – practice. Boreen and Niday (2000), for instance, identified the compartmentalized nature of typical educational settings as a barrier for opening educator practice. Similarly, Mawhinney (2008) reported that educators' physical and collegial isolation results in high degrees of teacher autonomy, which may yield less teacher collaboration. Watson (2014) has also suggested that increased collaboration can actually result in the purposeful creation of boundaries in an effort to reduce oversight and surveillance, thereby intentionally privatizing some aspects of practice. Moreover, we recognize that accountability reforms promising greater transparency and accessibility, and whether oriented toward the individual or the institution, may counterproductively perpetuate a culture of surveillance and create additional barriers to open practice.

Efforts to encourage formal collaboration among educators, such as highly structured professional collaboration meetings and professional learning workshops, can also deprivatize educator practice. For example, when collaboration leads to educators developing shared values and practices, positive outcomes may include educators increasing their use of new pedagogical approaches and a renewed commitment to teaching all students. In other circumstances,

an educator's open educational practice may mean fostering shared experience, vulnerability, and transparency among a group of colleagues (Little, 2002; Levine & Marcus, 2010). Research has also shown that implementing an instructional coach program, for instance, can make targeted, deprivatized discourse about pedagogy part of regular professional learning conversations, and may also serve to publicize educators' areas of expertise (Coburn et al., 2013). Yet it would be short-sighted in a discussion of collaboration to not consider the role of individual and incentivized competition as educators become increasingly open to sharing their practices. A climate focused on individual performance is frequently the rewarded norm, reflecting prominent cultural and institutional narratives about accomplishment and effectiveness. However, it stands that – in an ideal scenario – aspects of competition and collaboration may work in concert to support educator learning and deprivatized practice (Webster, 2015). Whether via reforms like professional learning communities, or through the removal of physical barriers separating classrooms, we suggest that ecological interpretations of open education evidence the potential to deprivatize teaching practice.

3 Collaboration Arrangements

Collaboration – whether formal, informal, or improvisational – has long been promoted as a primary means of facilitating educator and school improvement efforts (Levine & Marcus, 2010; Little, 2002). Collaboration can reduce the privatization of educator practice and yield more openness among educators who may benefit from these efforts to improve teaching and learning. Whether under the guise of professional learning communities, peer networks, or communities of practice (DuFour, 2004; Hord, 2009; Lave & Wenger, 1991), more formally structured approaches to educator collaboration have, in some cases, garnered a collective sense of efficacy as a result of educators working together to affect educational change (Goddard, Tschannen-Moran, & Hoy, 2001). Such mandated collaboration – despite invariable tension associated with individual and collective agency – has been embraced by many schools and districts, with some systems establishing protocols for extending collaboration across settings and linking support mechanisms to formal collaboration structures. For example, when teacher-leader support roles are identified as part of a school district's professional learning design, the individuals in those roles share resources and information within and across school settings, extending the reach of collaboration to help other educators improve their instructional practice (Coburn et al., 2013). The policies, practices, and arrangements that

school systems implement in support of educators' more formal collaboration do have the potential to impact the ways in which educators interact with – and subsequently open – their practices to one another (Coburn et al., 2013). When, for instance, collaborative efforts among educators in a given school are bolstered by district-wide mechanisms that inform networking and support for one another, such collaboration can enhance educator agency and deprivatize teaching practices (Hopkins & Craig, 2011). Nonetheless, mandated collaboration arrangements and highly regulated methods of educator engagement do not guarantee openness, such as the creation of more open environments for professional learning or the deprivatization of teaching practice (Kougioumtzis & Patriksson, 2009). When formalities for working together run counter to educators' learning needs, collaboration can be deemed ineffective (Reeves, 2007). At the scale of systems, more structured collaboration models can actually yield less collaborative and open interactions among educators, compared to arrangements that provide for local decision-making (Hopkins & Craig, 2011; Kougioumtzis & Patriksson, 2009). It could be argued that systems and policies exercising significant control over the design and implementation of educator collaboration may unknowingly perpetuate more closed professional learning efforts and delimit educator agency; alternatively, those affording greater educator autonomy and decision-making may in fact support more open learning environments and opportunities for educators.

4 Educator Networking

Complimenting a brief review of educators' collaboration arrangements, ecological interpretations of open education should also consider the importance of educator networking. Given that social capital is key to developing collective educator agency (Bridwell-Mitchell & Cooc, 2016; Hargreaves & Fullan, 2012), it is not surprising that educators frequently network with their colleagues in order to advance their own professional learning. Educator efforts to build social capital through their peer network interactions is a means for opening practice, too; increased social capital facilitates knowledge sharing, individuals' willingness to openly discuss their experiences, and the ability to reach beyond one's regular working environments to access information (Rehm & Notten, 2016). Social capital – and the opportunities to interact within a network as a result of developing social capital – is explicitly grounded in trusting relationships among members of a network in their shared desire to learn (de Jong, Moolenaar, Osagie, & Phielix, 2016). Informal educator networks focused on interest-driven learning may have a greater impact on student achievement

than more formal arrangements, since informal networks allow educators to seek support for their identified, immediate problems of practice in ways that are not always possible in more structured settings (Akiba & Liang, 2016).

In some cases, the relationships buoying educator networks need to be cultivated in order for open sharing to occur. Educator relationships have been found to be instrumental in advancing school change efforts, as such social networks help to create a safe climate for professional learning (Moolenaar, 2012). Educator networks have also been linked to increased self-efficacy; in turn, such networks can support educator motivation and student learning (de Jong et al., 2016). Moreover, educators' relationships with one another have been described as a lever for developing educator knowledge, changing teaching practices, and improving student engagement (Akiba & Liang, 2016; Little, 2002). For example, in an examination of protocol-use by collaborative teams, sharing was described as more open when teams were encouraged to use discussion guides that incorporated explicit depictions of classroom activity, as well as sharing of classroom struggles. Such protocols supported development of collegial relationships and opened conversations that may previously have run counter to school norms (Levine & Marcus, 2010).

Any contemporary review of educator networks would be remiss were it not to mention how educators engage in personal and professional dialogue through digital and social networks. Research about educator networking via blogs and social media platforms (i.e. Facebook, Twitter) suggests educators' interactions in these open spaces can usefully contribute to professional learning. Social media provides a pathway for educators to quickly access and evaluate multiple perspectives on a topic, and to easily interact with both novice and more experienced peers (Hart & Steinbrecher, 2011). Educators who participate in Twitter conversations can increase their social capital through such online interactions while also expanding their networks in the process (Rehm & Notten, 2016). For educators who author blogs, blogging is a well-documented means of building social capital through author-reader interactions. Posts and subsequent comments can open educational practice; such exchanges bridge public and private space, highlight network members' expertise, provide affinity around topics of shared interest, and create (potentially safe) spaces for individuals to ask questions, provide feedback, and share ideas (Luehmann & Tinelli, 2008; Risser & Bottoms, 2014). Research also indicates that educators participate in interest-driven and social media networks for varied reasons; educators can share openly both positive and negative emotions and experiences associated with their work, ask for help and admit struggles in an environment separate from workplace colleagues, relieve isolation, explore new teaching ideas, and develop a sense of community (Hur & Brush, 2009; Kelly & Antonio, 2016).

The previous review is meant to underscore how ecological perspectives on teaching and education learning appear throughout literature concerned with deprivatizing teaching practice, educator collaboration arrangements, and educator networking. With this scholarship as a foundation, this chapter asserts there exists an opportunity to focus more intentionally on how educators' collaboration and networks can be cultivated and leveraged in service of deprivatized and more open educational practices across public and private boundaries.

5 Educator Social Learning Ecologies

In their work with youth, Ching and colleagues (2014) defined a SLE as the 'assemblage of individuals that provide material, knowledge building, emotional, brokering and/or institutional forms of support for the purposes of initiating or sustaining learning' (p. 2). Their research and characterization of SLEs posited that a youth's learning ecology could be extended with targeted supports from critical individuals who provide guidance as they pursued interest-driven learning activities. In mapping youth SLEs across sixteen different support roles, Ching and colleagues found that the depth and breadth of youth SLEs, namely the redundancy and diversity of an individual's SLE, were likely to contribute to sustained engagement in interest-driven learning.

In applying the theoretical perspective and empirical findings from Ching and colleagues' (2014) study of youth to the context of adult learning, we find the concept of a SLE to be a novel model for characterizing how educators might cultivate and nurture their professional networks across public and private boundaries. Furthermore, mapping educators' SLEs has potential as a tool for articulating the ways in which educator practice spans material and digital settings, and for how educators can access and leverage relationships and resources across a continuum of public and private settings to support their interest-driven and professionally relevant learning. In this section, we conceptualize, represent, and describe educator SLEs so as to delineate necessary supports for – and pathways toward – more open teaching and educator learning opportunities.

6 Opening Educator Social Learning Ecologies

Adapted from Ching and colleagues' (2014) definition, we define an educator's SLE as *the assemblage of individuals, material resources, knowledge-building practices, and other supports that span multiple settings and can sustain*

educators' open educational practices. Figure 8.1 is a visual representation of an educator's SLE, highlighting the prominence of knowledge-building practices, emotional support, resources, and brokering as four categories of support that influence how educators propel their own learning across public and private boundaries, as well as personal and professional contexts, in navigating pathways toward open educational practice. The shaded area surrounding an educator is intentional; while educators are distinctively influenced by knowledge-building practices, emotional supports, resources, and brokering, these four categories are not entirely distinct, are mutually constituted by personal and professional contexts, and collectively shape how an educator navigates public and private boundaries.

Of note in this depiction of an educator's SLE is the absence of specific people. This theoretical framework privileges relations among multiple categories of support, however those supports may be provided, rather than between an educator and multiple other individuals. Colleagues, family members, students, and others may all be part of an educator's SLE, providing resources to the educator so as to navigate personal and professional contexts. However, the focus of mapping the SLE is to identify *support types* that educators access as they become more open in their practices. Therefore, this theoretical

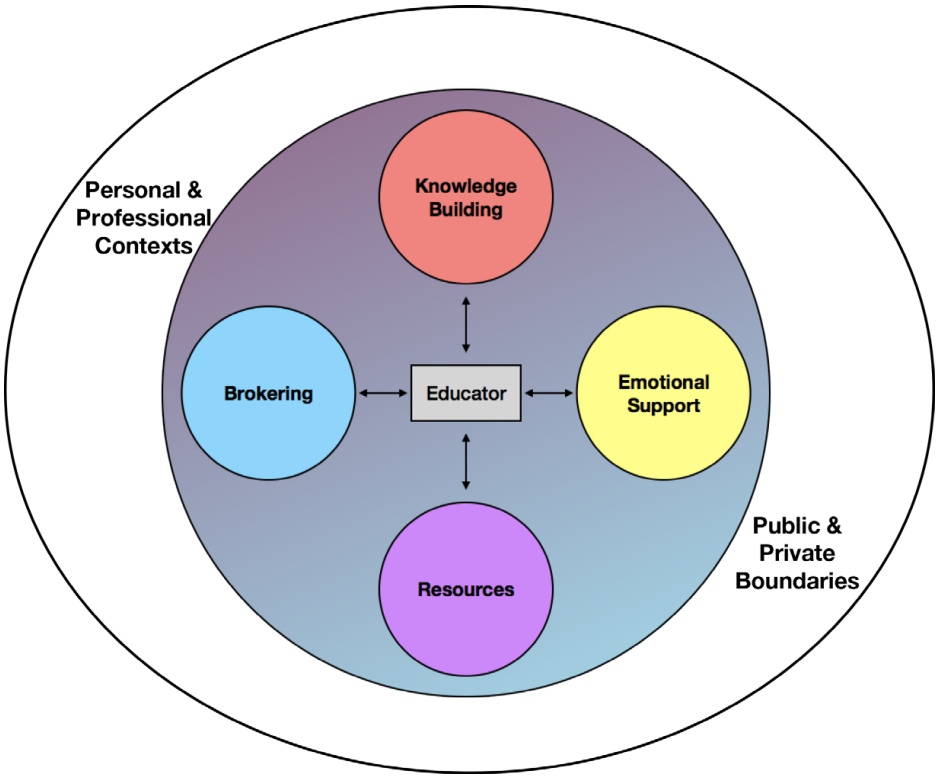


FIGURE 8.1 Educator social learning ecology illustrating interconnectedness of support categories as situated within different contexts and boundaries

framework illustrates proposed categories of support provided through both interpersonal relationships as well as supports afforded by relationships with material, ideational, and network influences.

6.1 *Knowledge-Building*

We define knowledge-building in an educator's SLE as developing competencies and skills for professional practice through social interaction. Knowledge-building practices include the ways in which educators establish knowledge and skill through their interactions with one another. These social interactions include reciprocal activities that benefit both parties, such as teaching and learning, collaborating to accomplish a task, and providing feedback, which can strengthen understanding for both the feedback provider and receiver. Knowledge-building activities also include developing a broader repertoire of teaching strategies and content, learning more about colleagues' practices, and developing content and procedural understanding to more effectively navigate the education profession.

While this definition describes educators' knowledge-building practices as they interact with other educators, such interaction is not limited to those who share similar professional expertise. Other individuals in an educator's SLE may include friends, family, and acquaintances they encounter who help them build knowledge and skills. The bookstore clerk whose brief reviews of and hearty discussion about the newest adolescent literature titles; the swim coach who models immediate and specific feedback about an athlete's performance; the long-time community member who offers insights into the shifting dynamics of the neighborhood culture – all may assist with knowledge-building practices as members of an educator's SLE.

From an ecological perspective, the knowledge-building practices of an educator's SLE can take place within school settings, as might occur when a group of educators in the same department engage in a book study about a topic of mutual interest, or when a consultant comes into a school district and provides resources for staff to learn about a new instructional approach. Such knowledge building can stretch boundaries and encourage open sharing among colleagues, as might occur when two educators decide to co-design a unit of study and, in the process, expand their shared knowledge of content and pedagogy. Other knowledge-building practices bridge public and private spaces in schools. For example, educators who observe one another teaching a lesson, in person or remotely, and then provide feedback on their observations simultaneously develop knowledge of teaching craft and lower the barriers of privatization. Knowledge-building practices can also span physical and digital spaces, as is the case when educators participate in online discussion forums

or Twitter chats, learn from peers across the globe, and broaden their perspectives about teaching and learning in diverse settings.

6.2 *Emotional Support*

Emotional supports in an educator SLE are the ways in which educators are encouraged to persevere and are recognized for their accomplishments through social interaction. These emotional supports serve to create a safer environment in which individuals feel comfortable to take risks. For example, when colleagues share their successes and challenges and offer one another authentic, supportive responses, they can build a sense of collective efficacy and may feel more capable of tackling challenging situations both individually and together as a group.

Emotional support to persevere may come from family members who reinforce an educator's decision to become a principal; or from a colleague who, over coffee, openly discusses the demands of being an educator; or from a weekly video conference with colleagues from across the country during which strategies for a successful first year of teaching are shared. The emotional support given and received through one's SLE may be the catalyst needed for educators to feel safer and confident about opening their teaching practice to others, perhaps even for individuals who are working within challenging sociopolitical environments and are otherwise reluctant to share.

Likewise, when educators share successes and challenges at a faculty meeting or post examples of their work products in an online forum – their own lessons, for example, or student work samples – they are able get feedback from colleagues who may have similar experiences. As open and trusting relationships develop, educators may find that the emotional support received through their networks provides a source of optimism and encouragement. Similarly, as educators test and more fully develop their ideas by sharing blog posts or other writing on social media, the reassurance and affirmations they get in return may be support enough to encourage continued sharing – or may even spur confidence to submit their writing for publication. Through these personal interactions with SLE members, educators strengthen their social capital; in turn, this encourages continued professional learning by expanding and opening their networks.

6.3 *Resources*

Resources in an educator SLE are material, digital, and conceptual supports that educators access to advance their professional practice and learning. Resources may also include time to engage in professional learning, either in the sense that time is provided for an individual to learn, or in that others give

of their own time for shared learning. Resources in an educator SLE are similar to what Akkerman and Bakker (2011) refer to as *boundary objects*, or artifacts that help to bridge activity across boundaries and may, for instance, include 'a teacher portfolio as a means by which both the mentor and the school supervisor are able to track the development of the student teacher in teacher education' (p. 133). The supports in this SLE component are frequently paired with knowledge-building practices and include both local resources and those that span boundaries.

For educators who do not have access to the same professional learning opportunities, collegial resource-sharing can be an effective way to develop knowledge and skills; moreover, resources may provide a generative platform to open discussions about pedagogy and student learning. New resources may be accessed when one member of a department attends a conference, brings back educational content, and shares new insights with the rest of the team. This also occurs, for instance, when educators on a project-based learning team initiated by a local university schedule time each week for project updates, resource sharing, and planning for each week's classroom activities. In this case, it is time, ideas, lesson plans, educational content, and pedagogical strategies that are the shared resources. Similarly, when an experienced educator shares teaching resources via social media and engages in ongoing conversation with other educators who subsequently use their materials in other classrooms, they support others in developing their knowledge of practice. Resources may also be provided by an organization, as is the case when educators are allocated professional learning days throughout the school year to meet with colleagues from across their district and discuss curriculum and instruction. Resource-sharing is a means of opening educators' practices; by offering ideas, materials, and time, educators signal an openness to learn collaboratively with one another. In this way, an educator can leverage their SLE, using new resources to build professional knowledge.

6.4 *Brokering*

Brokering describes the ways in which educators both gain and also provide access to other individuals, opportunities, or resources as mediated through SLE social interactions. Educators may serve as a learning broker or knowledge-building broker for their colleagues, or conversely may benefit from such social relations. Brokering in an educator SLE spans a range of social arrangements and professional purposes, from everyday introductions to new colleagues and their learning resources and networks, to participation in more robust and sustained learning communities over time. Social capital is often key to brokering, and through newly brokered opportunities educators can

more easily expand their access to new professional learning opportunities, resources, and relationships.

Brokering in an educator SLE can be both formal and informal, with activity that occurs during a single handshake as well as throughout longer-term relationships. When a school administrator invites a novice teacher to join the school leadership team, the teacher develops knowledge about the school's shared leadership model and processes for continuous improvement that may have otherwise been inaccessible. A less formal brokering opportunity exists when a university professor introduces a group of graduate students to a network of professionals interested in similar topics, creating an open space for the students to engage in dialogue and networking. Inclusion on the school leadership team is likely a long-term commitment; taking advantage of a colleague's offer of admission to hear an author speak about a new book is a short-term commitment. A graduate student may seek to publish a paper in an academic journal with varying degrees of success and acceptance; the same student, with a brokered introduction from a faculty advisor, may be introduced to a journal editor who is willing to provide feedback and mentoring, increasing the likelihood of eventually having a paper accepted for publication. These brokered opportunities, by definition, open educator practice when they make accessible new pathways for learning that may cross boundaries and span public and private spaces.

7 Educator SLE and Mapping Learning across Public and Private Boundaries

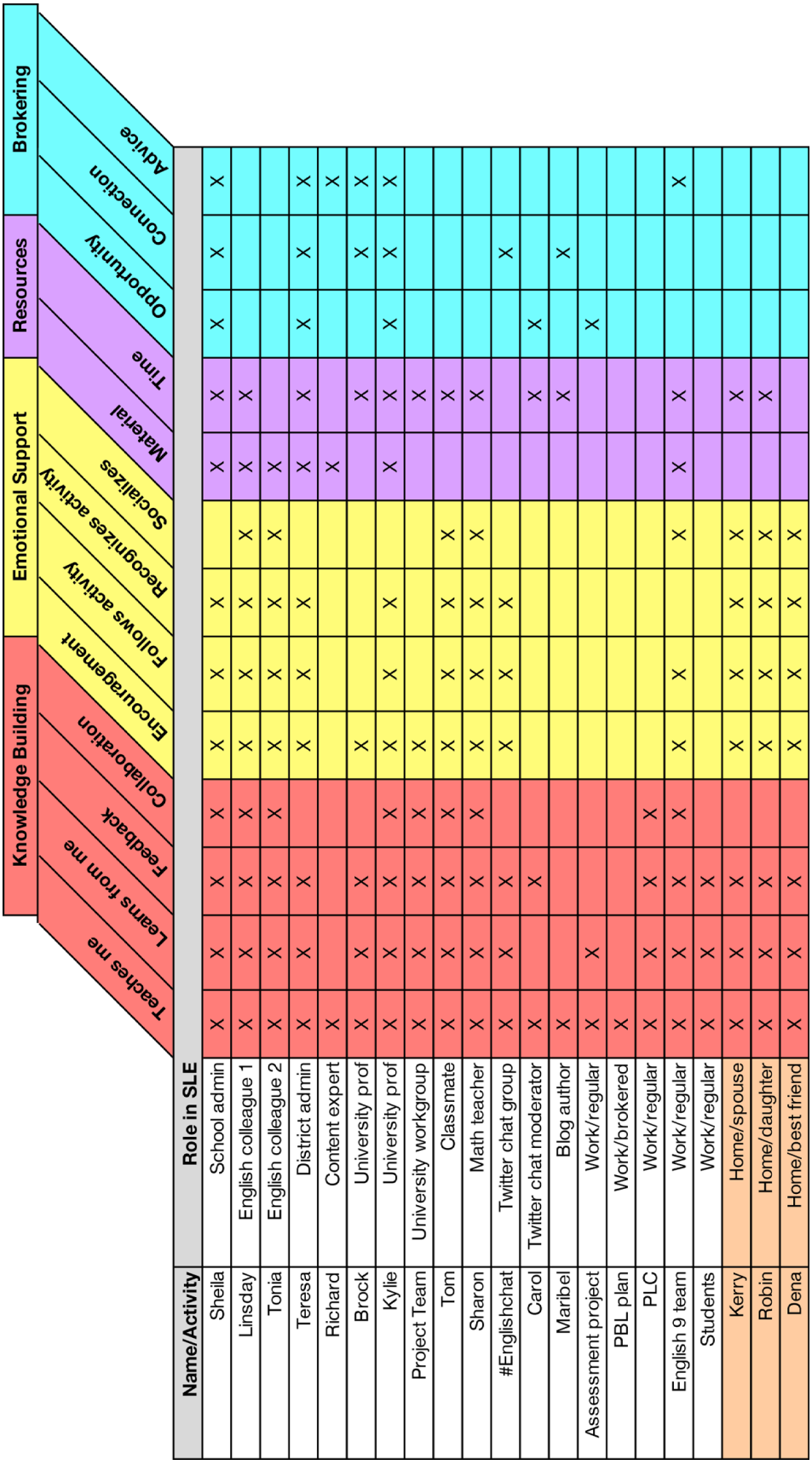
The four proposed categories of an educator SLE are inextricably linked, and each component of the SLE contributes to that individual's learning across the continuum of public and private boundaries. Participation in knowledge-building practices can inform emotional supports, as when collegial interactions strengthen social capital and bolster confidence to apply new instructional practices. Similarly, brokering activities and relationships can be linked to emotional supports. As the different components of an educator's SLE – the people, resources, practices, and supports – interact and are accessed, the nature of any given SLE shifts. While each individual sits at the nexus of intersecting SLE components, an ecological perspective on educator learning suggests the qualities and reach of an SLE are also influenced by factors well beyond the individual scale. Learning by one member of an SLE influences the learning of others, reinforcing the dynamic and networked attributes of learning ecologies and the importance of collective activity. Further, SLEs, by

definition, are also situated; SLEs are shaped by both personal and professional contexts, as well as by public and private boundaries educators routinely encounter and cross.

Understanding the dynamics of an educator's SLE – and how the SLE can be instrumental in crossing public and private boundaries of learning and educator practice – can be aided by an individual articulating specific sources of practice, support, and brokering. In this section, we present two different types of SLE 'maps' as visual representations to assist researchers, educators, and facilitators of professional learning in bridging the previously detailed conceptual framework with the practicalities of individual experience. These two SLE maps are suggested tools for detailing an educator's SLE, identifying possible pathways along and across public and private boundaries, and signaling new opportunities to create open professional learning environments, teaching practices, and educational opportunities. The first of these tools, SLE Supports Map (Figure 8.2), depicts how one educator might begin to identify and categorize sources of support in their SLE.

The process of mapping an educator SLE, as represented in Figure 8.2, can be both a generative and iterative process, and need not necessarily adopt the precise form (i.e., similar to a spreadsheet, more linear) as suggested above. The broader intention of creating a visualization tool like an SLE Supports Map is to articulate and represent the sources of support that contribute to how an educator learns and interacts with others across public and private boundaries. Such a map is useful to help identify, name, and understand how particular individuals and resources might support boundary-crossing transitions in service of more open educational practices.

The hypothetical SLE Supports Map in Figure 8.2 includes the four proposed educator SLE categories: Knowledge-building practices, emotional support, resources, and brokering. It is evident from this example that the educator has a broad SLE, as it spans the work environment, connections through a university, other educators with shared digital platform memberships, and brokered opportunities like the 'PBL Plan.' As depicted in this example, a SLE may include individuals in similar and different positions of authority; an educator's map may also include other classroom educators, as well as school and district administrators. A SLE Supports Map may identify colleagues with similar role responsibilities, such as other English educators, as well as those who work in the same school but in different roles; the English educator may point to colleagues in mathematics and the counseling department as members of their SLE. The sample SLE Supports Map also reveals redundancies in support. Every source is identified as an opportunity for learning and, in the majority of cases, the sources are learners as well. As a SLE encompasses a broader



Name/Activity	Role in SLE															
Sheila	School admin	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Linsday	English colleague 1	X	X	X	X	X	X	X	X	X	X	X	X			
Tonia	English colleague 2	X	X	X	X	X	X	X	X	X	X					
Teresa	District admin	X	X	X		X	X	X	X	X	X	X	X	X	X	X
Richard	Content expert	X								X						X
Brock	University prof	X	X	X		X					X			X	X	X
Kylie	University prof	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Project Team	University workgroup	X	X	X	X	X						X				
Tom	Classmate	X	X	X	X	X	X	X	X			X				
Sharon	Math teacher	X	X	X	X	X	X	X	X			X				
#Englishchat	Twitter chat group	X	X	X		X	X	X						X		
Carol	Twitter chat moderator	X		X								X	X			
Maribel	Blog author	X										X		X		
Assessment project	Work/regular	X	X										X			
PBL plan	Work/brokered	X														
PLC	Work/regular	X	X	X	X											
English 9 team	Work/regular	X	X	X	X	X	X		X		X	X				X
Students	Work/regular	X	X	X												
Kerry	Home/spouse	X	X	X		X	X	X	X			X				
Robin	Home/daughter	X	X	X		X	X	X	X			X				
Dena	Home/best friend	X	X	X		X	X	X	X							

FIGURE 8.2 SLE Supports Map illustrating how an educator can map supports associated with the four categories of support in the theoretical framework

network of supports provided by a range of individuals – university professors, classmates, contacts from online sources, friends, family members, others – the potential increases for a given educator to engage in more interconnected, expansive, and open professional learning.

To begin generating a SLE Supports Map, and whether in similar or dissimilar form to the hypothetical example, questions such as the following may be useful for educators interested in beginning the process of mapping the people, practices, and supports present in their SLE:

- Knowledge-building: Who are the people and/or what are the activities that provide useful knowledge about teaching and learning?
- Emotional support: Who are the people and/or what are the activities that provide emotional support about teaching and learning?
- Resources: Who are the people and/or what are the activities that provide resources – such as materials, time, or other supports – to encourage teaching and learning?
- Brokering: Who are the people and/or what are the activities that provide access to (new) resources and opportunities about teaching and learning?

To gain further insights into how an educator's SLE can contribute to open educational practices, we further suggest the SLE Supports Map can be extended to include the interactions among individuals, practices, and resources. A second type of visual representation, the SLE Connections Map (Figure 8.3), indicates these interactions by acknowledging how specific elements of the SLE are connected, both intentionally and by association.

This SLE Connections Map illustrates how a single educator's SLE can generate connections among SLE members, for the purposes of identifying how supports are distributed across the network. In this map, three connection types are represented by different colored symbols. Blue symbols indicate existing connections between SLE members. A green symbol reveals situations where the educator introduced one or more SLE members to one another, or where a resource or opportunity was shared across SLE members. Purple represents a third connection type – connected by association. In these situations, no direct introduction is made; however, the educator's interactions with these SLE members has been influenced by other SLE members, resources, or opportunities. Like the SLE Supports Map, the represented form of this sample SLE Connections Map is less important than the processes of visually mapping various types of connections. Similarly, the three types of connections featured in this example (existing connections, introductions, and associations) may not necessarily be useful for all educators; again, the broader impetus is to usefully categorize SLE connection types as a step toward opening educational practices.

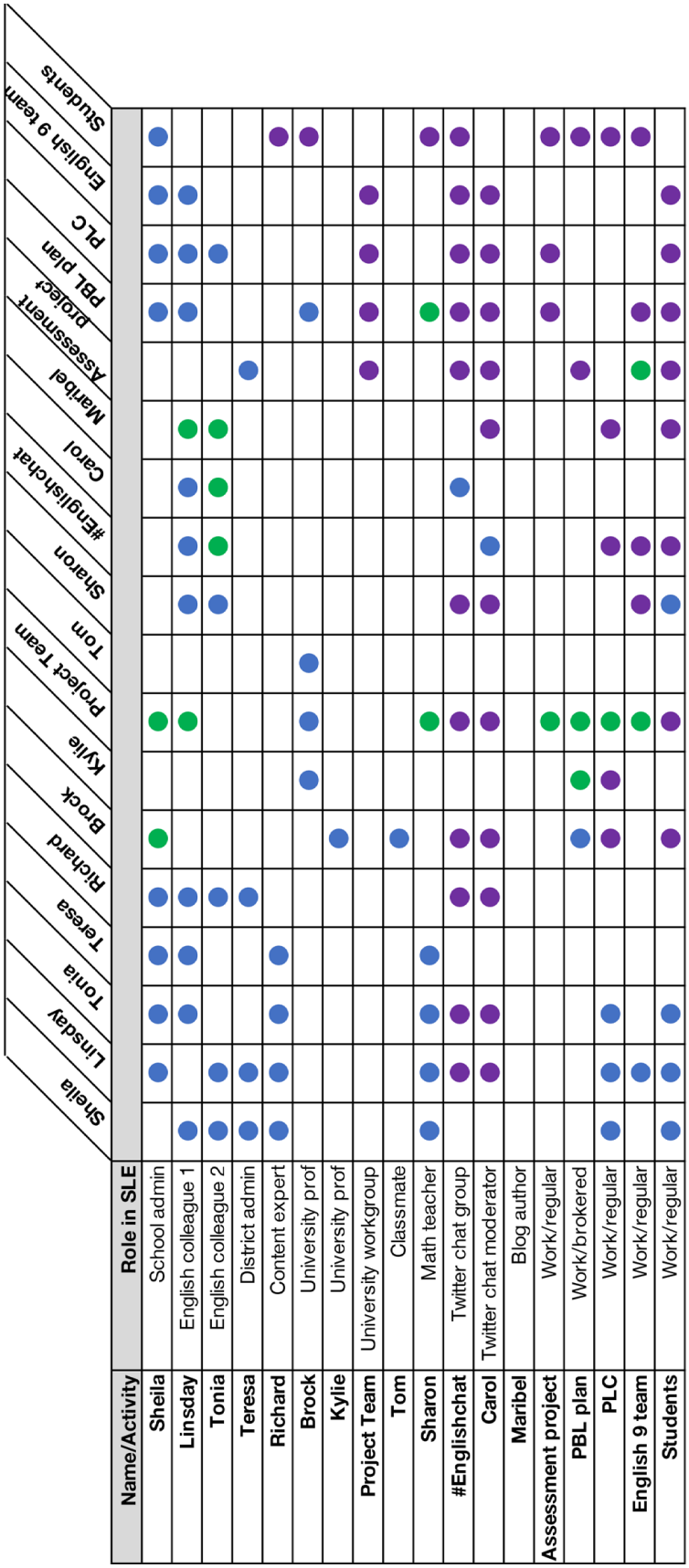


FIGURE 8.3 SLE Connections Map illustrating how the various aspects of an educator SLE are connected

A SLE Connections Map can help illustrate how the people, practices, and resources of an educator's SLE create pathways for navigating public and private boundaries with the aim of encouraging open educational practices. As an educator interacts with members of their SLE, their learning, ways of working, and knowledge of new resources can become entangled with the practices, ways of knowing, and resources of connected SLE members. When an educator leverages their SLE to make professionally-relevant connections, learning may be advanced for the collective network. Moreover, the potential for boundary-crossing is enhanced when an educator's learning involves brokering among opportunities and individuals inaccessible without an intentional introduction across SLE connections. In the sample SLE Connections Map, note connections among the brokered opportunity titled Project Team and the university professor who served as the educator's broker. This brokered opportunity contributes to the educator's learning. Furthermore, because relationships of reciprocity for professional learning exist with school administrators, the educator also shared project group activities at their school, influencing the creation of an interdisciplinary project-based learning team. While hypothetical, this example is not unrealistic (Tsui & Law, 2007); in such circumstances, an educator's SLE interactions, and the manifestations of the supports enmeshed in the SLE, cross various public and private boundaries – university and K-12 settings, research project and practitioner actions, and professional collaborations that span multiple geographic locations. Such boundary-crossing SLE interactions may help educators deprivatize their practice and open educator learning for both the individual and the shared network.

8 Discussion and Implications

In this chapter, we have asserted the value of approaching educators' professional collaboration and peer networking from an ecological perspective on learning (Barron, 2004; Bronfenbrenner, 1976). More specifically, we have adapted ecological conceptions of development (Ching et al., 2014) to forward a conceptual framework of educator SLEs as a means of encouraging more open educational practices. Accordingly, this discussion addresses three related concerns: First, the importance of defining and mapping educator SLEs; second, implications for the design of professional development; and third, the role an educator's SLE can play in navigating pathways across public and private boundaries toward more open educational practices.

8.1 *Importance of Defining and Mapping Educator Social Learning Ecologies*

We have proposed a conceptually-grounded and pragmatically-oriented means of guiding educators to define and map their SLEs as a valuable activity for navigating public and private boundaries that are endemic to teaching practices across a variety of educational settings. The relevance of an educator SLE to expanding professional networks, developing social capital, and promoting boundary-crossing activities can more seamlessly occur by intentionally naming SLE supports and memberships, identifying and understanding connections among members and learning opportunities, and by considering how to deliberately leverage various SLE components. Educators can bolster their capacity to more effectively engage in the ongoing activity of crafting more open educational practices when they leverage a distributed network that provides supports for knowledge and skill development, offers reassurance and encouragement, and brokers opportunities for further learning. Furthermore, by using visual representations such as SLE Supports and Connections Maps, educators can illustrate how generative connections can be encouraged across public and private spaces so as to further develop open educational practices among both individuals and broader networks.

Because SLE research has predominantly examined youth connected learning across boundaries (Barron, 2006; Ching, Santo, Hoadley, & Peppler, 2016), there are broad implications for the study of educator SLEs, and, specifically, how educator SLEs intersect with efforts to deprivatize and open educator practice. Future study may seek to understand the intentionality with which educators cultivate and nurture their SLE, and whether articulating a SLE and its inherent connections contributes to more open educational practice, as well how other factors such as concerns for personal and job security, issues of sociopolitical conflict, and institutional and individual competition intertwine with one's SLE and local efforts to deprivatize practice. Exploration and definition of strong and weak ties within a SLE may provide more information about how educators conceptualize their SLE. We speculate that when educators create their own representations of a SLE Supports Map and a SLE Connections Map, their understanding of its complex interactions will result in more purposeful engagement with members of the SLE, including the role of the individual educator as a broker to facilitate subsequent network interactions. Studies should also explore how educator practice changes as a result of the open environments encouraged by SLEs. In studying how educator SLEs contribute to deprivatized educator practice, we would be remiss to not also encourage researcher inquiry about connections between an educator's SLE and their students' learning. Future research should focus on the

characteristics of an educator's SLE that inform specific learner outcomes, including the relationship between breadth and redundancy of SLE supports and the effectiveness of educator practices on student learning.

8.2 *Implications for the Design of Professional Learning*

Conceptualizing and mapping educator SLEs suggests implications for the design of educator professional learning. First, this chapter indicates there are likely promising opportunities associated with new professional development designs that guide educators in advancing their familiarity with the concept of a SLE and then by mapping their own SLEs. Second, such professional learning can encourage both breadth and depth of SLE interaction, assisting educators as they cultivate different perspectives and forms of expertise in service of opening their educational practices across settings, technologies, and domains. Professional learning about distributed SLE opportunities and resources may encourage educators to expand their networks, opening professional learning to span what may have previously been private spaces. Another consideration for professional learning design concerns educators' equitable access to brokered opportunities. In identifying and mapping SLEs among multiple educators, it is likely that opportunities afforded by brokers will vary from person to person. This variance is not unexpected; however, articulating who may benefit from a greater variety of learning opportunities may subsequently inform how school and district leaders provide additional supports for a range of professionals.

The implications for educator SLEs on professional learning designs are further apparent when considering how knowledge and resources may be shared within and across professional settings. It is not uncommon for schools or districts to focus professional learning and resource development in alignment with previously identified high-leverage instructional approaches (Goodwin, 2011). While this approach may have some initial merit for institutions in need of significant change, there are also promising opportunities associated with educator learning that is geared toward exploring diverse knowledge and material resources well-matched to student learning needs (Craig & Hopkins, 2011; Goodwin, Rouleau, & Lewis, 2018). When the majority of resources identified in an educator's SLE are from a limited range of sources, diversity of thought and openness to new ideas may be limited. By mapping and analyzing educator SLEs, it may be possible to identify whether resource-diversity should be amplified in professional learning design. If so, intentionally introducing or encouraging educators to access varied resources from outside their local context – that is, from across their SLE – may prompt educators to expand the boundaries of their professional learning. These insights from educator SLEs

provide an opportunity for responsive professional learning design that may result in increased deprivatization of both individual educator practices and instructional systems.

8.3 *Toward Open Practice: Navigating Pathways across Public and Private Boundaries*

A goal of conceptualizing and mapping educator SLEs is to surface pathways that educators can use to navigate along and across the many public and private boundaries that characterize teaching and learning. While more connected than ever before as a result of digital advancements (Kemp, 2017), educators still experience professional isolation for a variety of reasons, including structural features of physical buildings, the programmatic designs of schools as institutions, the degree of autonomy granted to educators in some schools, and the limited time available for substantial collegial discussions (Ostovar-Nameghi & Sheikhahmadi, 2016). Given a supportive and safe context in which to do so, encouraging educators to share openly about their pedagogy, classroom challenges, student learning, and trends and advancements in educational research can help to counter isolation and establish norms of collaboration that support open teaching and learning practices.

Our educator SLE conceptual framework and hypothetical SLE maps are meant to illuminate pathways across a continuum of public and private boundaries that classroom educators encounter every day, to identify tangible entry points toward greater social connectedness, and to provide pragmatic scaffolds toward more open educational practices. In this respect, our exploration of educator SLEs is not meant to be an esoteric endeavor. Rather, we approach our work as establishing a conceptual foundation that can help characterize how educators might build and sustain their professional networks across public and private boundaries, and for both individuals and groups. An educator's SLE may present multiple pathways toward open educational practices at both the individual and collective scales. While the specifics of an educator's SLE are unique to each individual, the interactions educators have with the people, resources, and opportunities in their SLE likely intersect with and impact other educators' SLEs. The power of a SLE is in both the individual human capital that is developed, and the collective capacity that is cultivated as individuals interact and change the learning environment experienced by networked peers. The potential for individual and collective capacity-building can take a variety of forms; it can include learning of content and skills relevant to one's discipline, it may be centered on developing self- and collective-efficacy, or it may concern strengthened and affirming social interactions with SLE members. Across circumstances, both the individual and the collective

can benefit. When an individual educator pursues new learning opportunities and connections, the impact on the network of SLEs may include more expansive and shared repertoires of knowledge and skills.

By mapping and leveraging their SLE, we maintain that educators can more easily navigate the public and private spaces of their profession, deepening their competence and confidence to meaningfully engage in open educational practices. In this respect, open educational practices are synonymous with the knowledge-building practices, emotional supports, resources, and brokering practices that distinguish educators' SLEs. Through the lens of ecological learning theory, we have suggested that educators can productively nurture collaborative social relationships that sustain their learning across settings and in coordination with a distributed constellation of people, resources, interactions, and supports. Educator SLEs are a promising means of both defining and expanding educator practice and relationships across settings, and for articulating how educators can access and leverage resources in service of open practices as boundary-crossing and transformative educational opportunities.

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