Chapter 14
Personal Learning Networks: Implications for Self-Directed Learning in the Digital Age

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ABSTRACT
Twenty-first century information communication technologies are enabling learners to create personal learning networks (PLNs) tailored to individual learning goals, needs, and interests, with implications for self-directed learning in the digital age. New, readily available digital media tools, open courseware, and other Web 2.0 technologies are changing how learners interact online, creating a participatory culture of knowledge sharing and content creation that is very different from early uses of the Web for accessing content. As learners participate in the multiple virtual communities of practice that comprise a PLN, they require new skills that merit reconsideration of the role of the educator in helping learners to become self-directed in both formal and informal learning contexts.

INTRODUCTION
Learning from experience has a distinctive place within the literature on adult education ever since Dewey (1938/1963) first made us aware of the importance of using everyday life experiences as the basis for learning. Scholars have explored the role of informal and incidental learning and the role of the adult educator in supporting learners in their quests for knowledge in both formal and informal learning contexts. This chapter attempts to address the question of how information communication technologies are contributing to adult education by exploring the concept of a personal learning network (PLN) and its implications for self-directed learning (SDL).

Personal learning networks are based on the premise that learning occurs through interaction with multiple people and in multiple contexts through virtual communities. Informal membership in each Web-based community is initiated by the individual learner, who interacts through a variety of communication technologies and digital media. By engaging with others who share...
similar interests and motivations for learning, the learner develops a network of contacts and resources to solve problems and access learning when and where needed. The PLN functions as a self-designed, self-initiated system for lifelong learning.

It is the changing nature of the World Wide Web itself that has brought the PLN into existence and given it its distinctive form. As the Web has evolved from a place where learners go to access information and acquire knowledge to become a place of participatory culture in which ordinary individuals can construct knowledge (Jenkins, 2006), the PLN has evolved as a 21st century social network focused on learning rather than other types of social exchange. This participatory culture has arisen with the advent of Web 2.0, defined by a host of new open source technologies that have appeared in the last few years: blogs, wikis, social bookmarking services, and social software for communicating, writing, and interacting on the Web. By implication, Web 2.0 also refers to the practices that are shaped by the use of these technologies. These practices allow anyone to collaborate, create, and share information online, resulting in a flexible and dynamic environment with the potential to link people to resources in ways only recently possible (O’Reilly, 2005).

A PLN is created through the learner’s participation in multiple communities of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002) to access learning resources when needed. Within each community that a learner participates, newcomers are socialized into the practices of the community by adopting its norms, culture, and distinctive meanings for language use. Initially, participation is “legitimately peripheral” (Lave & Wenger, 1991), but as individuals become contributing members, sharing ideas as well as resources, they gain increased access and status as members of an informally organized network of learners. The tools associated with participation include many different types of digital media, as well as a vast and growing array of open source tutorials, podcasts, and video resources. Many of these are available through iTunes University (http://www.apple.com/education/mobile-learning/), the OpenCourseWare Consortium (http://www.ocwconsortium.org/), the Massachusetts Institute of Technology (MIT) OpenCourseWare Project (http://ocw.mit.edu/OcwWeb/web/home/home/index.htm), and other sites of freely available resources that can be accessed anytime, anywhere. The very nature of such ubiquitous access changes how adult educators should think about learning in the digital age, with implications for their roles as facilitators of SDL.

The scholarly roots of a PLN are multi-disciplinary, grounded in traditional concepts of adult education and sociology. Adult learning concepts that describe the nature of formal, informal, and incidental learning, as well as the substantial literature on self-directed learning, are at the core of a PLN. The definition and function of a PLN derive from social network theory (Freeman, 2004; Granovetter, 1983). The literature on communities of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger et al., 2002), which views learning as informal, socially situated, and sustained by a body of common practices, describes how adult learners create, maintain, and grow a network of relationships to nurture self-initiated learning.

In this chapter, we begin by locating SDL within the broader field of adult education, describing the nature of formal, informal, and incidental learning and exploring the role of the adult educator as first articulated by Knowles (1975). We will then illustrate how a PLN works in practice through a vignette typical of a 21st century learner who has developed the skills to maximize learning in the digital age. Next, we will describe the theoretical underpinnings of a PLN and the rise of a participatory culture on the Web, exploring what a PLN looks like in practice through the use of social media, digital tools, and open source learning resources. Finally, we will present a rationale for the adult educator to model development of
a PLN and adopt pedagogical practices that will scaffold learners into the skills and knowledge necessary to make the most of information communication technologies now and in the future.

LEARNING IN MULTIPLE CONTEXTS: FORMAL, INFORMAL, AND INCIDENTAL

One of the most abstract concepts in the adult educator’s lexicon is that of learning. Depending on the theoretical lens adopted, learning can be conceived of through behavioral, cognitive, humanist, social cognitive, or constructivist perspectives (Merriam, Caffarella, & Baumgartner, 2007). Educators can also focus on the various arenas of adult life in which learning occurs and frame their understanding by categorizing learning as formal (classroom-based or institutional), informal (through life experiences), or incidental, produced as the unintentional byproduct of some other activity (Marsick & Watkins, 1990, 2001).

Marsick and Watkins (1990, 2001) define informal learning as either planned or unplanned, but state that learners are consciously aware of their learning when it occurs, even when outside of a classroom or structured environment designed for that purpose. When learners have deliberately undertaken the learning activity, they often describe informal learning in such terms as self-directed, networking, coaching, mentoring (or being mentored), and the learning from experience that is commonly expressed as “trial and error” through experimentation.

Adult educators cannot afford to ignore the significance of learning that is self-initiated and self-directed, especially since much of it contributes to what is learned through formally designed learning experiences. Studies of informal learning among managers in the workplace have long indicated the relative prevalence of informal learning over formal classroom or organizationally-designed learning experiences (Davies & Easterby-Smith, 1984; McCall, Lombardo, & Morrison, 1988), with informal learning accounting for as much as 70% of all managerial learning (Leslie, Aring, & Brand, 1997). Because of its prevalence, adult educators are taking note, not only of how such learning occurs, but also of how formal learning environments can embrace methods that include informal learning strategies in support of learners’ goals.

When informal learning is unplanned, learners are often caught by surprise at the nature of the unexpected or through the realization of a problem that demands immediate resolution. They engage in what Schön (1987) described as a “stop and think,” an opportunity when reflection during the course of action can actually change the outcome of the situation as the learner addresses the unexpected by experimenting with a new approach. When the learner revisits what has happened and ponders “why,” informal learning occurs as retrospective sensemaking, what Schön called reflection-on-action.

Another form of informal learning from experience is what is described as incidental learning in the literature (Marsick & Watkins, 1990, 2001). Marsick and Watkins claim that incidental learning is always an unintended by-product of some other (non-learning) activity. Because it is unexpected, they believe it usually remains unexamined for its learning potential unless brought into conscious awareness.

Reischmann (1986) referred to incidental learning as learning “en passant.” He viewed learning en passant as unpredictable and highly individualized, since people often learn different things from the same experience. Reischmann suggested that learning unexpectedly while navigating usual life situations builds on what individuals already know, and also has the potential to become either the basis for future learning or the starting point for intentional learning efforts. Incidental learning depends upon a wide variety of supports (people, media, resources, and institutions) to develop into intentional learning (Marsick & Watkins, 1990,
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2001; Reischmann, 1986). These scholars believe that while incidental learning cannot be predicted, it is nonetheless useful since it emerges out of the day-to-day activities of life.

While learning within a PLN is self-directed and initiated by the learner, it presents many unique opportunities for incidental learning. These occur almost serendipitously through the connections that a learner makes within the network and through the resources that are part of an interlinked and interconnected Web. This potential for a PLN to yield unexpected insights and spontaneous discoveries can be a delightful surprise for the learner. It is as if there are two interwoven layers to the self-directed learning that occurs through a PLN. The core activity is one initiated and directed by the learner in deliberately reaching out to connect with the communities, resources, and people of the network. The second layer of potential learning is that which is magnified by the social nature of the Web. It results in many unexpected discoveries, making the PLN a powerful enabler of self-directed learning.

Scholars have noted that informal and incidental learning are on the rise in the digital age (Marsick, Watkins, Callahan, & Volpe, 2006; Siemens, 2005), providing us with unanticipated possibilities for information access and knowledge creation. Wesch (2009) suggests that “at the base of this ‘information revolution’ are new ways of relating to one another, new forms of discourse, new ways of interacting, new kinds of groups, and new ways of sharing, trading, and collaborating” (para. 2). Learning in the digital age is initiated and sustained by the learners’ curiosity and fostered by the ease with which anyone with a computer connection can reach out to others, creating a virtual community with those who share common interests and motivations. In a world in which the vast storehouse of human knowledge is at our fingertips (Nugent, 2009), self-directed learning takes center stage.

Knowles (1975) was among the first to articulate a definition of SDL that describes self-initiated learning and the educators’ role in fostering it, whether learning occurs as a part of a formal learning situation or through the informal activities of daily life:

*In its broadest meaning, “self-directed learning” describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes.* (p. 18)

We use this definition of SDL to describe learning in which learners initiate and sustain the network of connections that comprise a PLN. The advent of information communication technologies has the power to blur the distinctions between formal, informal, and incidental learning in many virtual environments that are now embedded in everyday life at home, in school, or during work-related activities.

**THEORETICAL CONCEPTS IN SELF-DIRECTED LEARNING TO SUPPORT PERSONAL LEARNING NETWORKS**

Within the broader field of adult education, SDL has developed over more than four decades through scholarly research and activities (Guglielmino, Long, & Hiemstra, 2004). SDL has been explored as a personal attribute of the learner, expressed as learner autonomy; a process in which individuals plan and manage their own learning; and as a way of organizing instruction in the classroom to permit maximum learner control (Caffarella, 1993). While all three foci have relevance for learning in the digital age to support formal and informal learning, it is the process by which learners plan and manage their own learning that is most pertinent to the development of a PLN.
Early writings on SDL focused on the self-planned learning projects undertaken by adults in a wide variety of settings, including some that would traditionally be classified as institutions of formal instruction, such as the church (Tough, 1971). Tough operationalized the term “learning project” to mean a total investment of at least seven hours (approximately a day’s work) focused on a single effort to improve skills and knowledge in a particular area of interest. Tough’s initial research on more than 66 individuals found that adults were deeply engaged in self-planned learning, investing an average of 700 to 800 hours per year in projects related to accomplishing personal goals, improving job-related skills, or adopting new recreational activities and interests (Guglielmino et al., 2004).

Today, learners have access to an unprecedented amount of content on the Web that, ironically, is becoming more organized through the mediating functions of social media. Individuals, groups, and collectives of all kinds are self-organizing in social networks such as Facebook, MySpace, LinkedIn, and Ning sites. As myriad communities of practice have sprung into being around blogs, wikis, and other social software, learners are discovering the ability to locate, store, and tag (label) worthwhile content such as photos, music, video, and text, not only for themselves, but also for others to access. Users of social media are creating an organizing structure through a host of new digital media tools for information exchange and dissemination to obtain frequently updated, streamed, or interactive content. They have discovered that they can mix, share, and adapt others’ work to create new knowledge forms through collaborative efforts (Wesch, 2009). The PLN functions as a highly individualized mechanism for harnessing the vast resources accessible on the Web, enhancing the possibilities for SDL in ways not imagined in the 20th century (Nugent, 2009). With the introduction of aggregators and feed readers (Real Simple Syndication or RSS), digital tools that permit frequently updated content to reach the user in a single Web-based location, SDL has been dramatically enhanced by the Internet (Rager, 2006).

The Organizing Circumstance in Self-Directed Learning

One concept, in particular, within the early scholarship on SDL merits renewed attention for its description of how learners go about learning on their own, that of the “organizing circumstance,” first described in 1984 by George Spear and Gerald Mocker as they were building on Tough’s (1971) initial work. In a secondary analysis of data from a study of self-initiated learning projects of 78 adults in formal as well as informal settings, Spear and Mocker (1984) discovered that the linear sequence of planning steps delineated by Tough did not appear to hold true for a group of adults who had less than a high school education. Instead, Spear and Mocker (1984) observed that the gathering and selecting of resources, including accessing other people as resources for learning, while deliberate, was certainly not linear, and, instead, appeared to be directed largely by what was available to the learner in the immediate environment. A chance encounter, a flyer or leaflet that appeared in the mail, a workplace conversation—these were the sparks that led learners to initiate learning efforts in pursuit of personal goals (p. 3). The resources most accessible to the learner tended to guide the learning process along a certain trajectory so that the course of learning was shaped by what was most easily available (Spear & Mocker, 1984; West, 1992). Further study led Spear and Mocker (1984) to postulate that there was an organizing circumstance at work: The environment itself provided the impetus for learning and the connections with people and resources that determined the path along which learning proceeded (p. 9).

The novelty of this idea intrigued many at the time for its insights into the serendipitous nature of much self-initiated learning, while a few scholars were quick to criticize Spear and
Mocker, believing that they were harkening back to an era of behaviorist determination in human actions (West, 1992). However, Spear and Mocker (1984) were clear that they did not intend to imply a lack of free will or autonomy in learning, but, rather, that learning occurred within an existing context that exerted an organizing function on what was learned, as well as how (p. 9). Since 1984, subsequent studies with adults of various ages and socioeconomic levels have found support for the idea that SDL is often opportunistic in nature (Berger, 1990; Danis & Tremblay, 1985; Rager, 2004), guided by resources that are most accessible to the learner.

In contrast to an immediate environment that delimits the opportunities for access to resources, today’s Web environment provides a complex array of unlimited choices (Rager, 2006). The hyperlinks that connect both resources and people in a virtual learning space also help define a learning trajectory that is shaped by the PLN of an individual learner, providing an organizing structure among all possible Web-based resources. While the nature of the organizing circumstance has evolved in its complexity for 21st century learners, the concept nonetheless appears relevant as individuals create unique learning paths based on the circumstances of their Web-based community memberships.

New Skills for an Interconnected World

Many learners are unsure how to go about assessing the quality of content that awaits them on the Web (Rager, 2006). The task for the digital age learner has become one of evaluating the appropriateness, authenticity, and quality of what is available (Wesch, 2009). Most learners will require knowledge of how to create a network of connections to both human and non-human resources before they can fully embrace the participatory culture of what the Web has to offer (Downes, 2007; Siemens, 2005; Wesch, 2009). Today’s learners require technological savvy, knowledge of information communication technologies, and the willingness to extend themselves into a world-wide community that crosses national boundaries and includes multiple cultures and diverse perspectives in their quest for knowledge. Development of a PLN can provide the connections that function as multiple-trajectories for building knowledge in an era in which learners are content creators as well as collaborators with others.

This vignette describes a few hours during a typical day of a self-directed learner, illustrating the concept of a PLN and the role of information communication technologies that are readily available to support adult learning. It is a thoroughly contemporary portrait of a woman who has learned how to build and create a network of people and resources accessible through digital media tools to enable her to accomplish self-initiated learning tasks as well as classroom-based assignments. She is an example of a learner in the digital age.

Suzanne and her two daughters, one in college and the other a senior in high school, are waiting in an airport WiFi-enabled café for their connecting flight to Washington, DC. It is Mom’s 25th college reunion weekend, and she is excited to think about seeing friends from her college days. Suzanne is a human resources consultant now in graduate school taking an online course.

While daughters Emily and Christine linger over a concoction of ice cream and chocolate, Suzanne uses her smartphone to access the Internet and the class wiki to check on this week’s reading assignment. She and another student, Jake, are preparing a virtual presentation and will lead the class discussion in two weeks. While on the wiki, she sees that Jake has uploaded a draft of the presentation content. She notices a couple of minor typos and one serious (she thinks) factual error—she makes edits online in this collaborative writing space and then does a search of the research article in question to verify her inter-
interpretation of the questionable content, updating the wiki afterwards.

Next, she sends a quick tweet via Twitter to let Jake know to check the site for her edits. Meanwhile, Suzanne checks tagged content on her Delicious site, a social bookmarking service on the Web, for additional articles and relevant information shared by others in her personal learning network. Ultimately, Suzanne’s efforts will yield several articles, two blog posts with worthwhile content, links to other references, and people with expertise in the content area of their presentation.

Suzanne and her daughters still have an hour before the airplane leaves. She grabs her headset and uses her smartphone to access iTunes University and a video podcast pre-recorded by the professor for next week’s online discussion. After watching it, she’ll post her own reaction to it on her blog established as a reflective journal for her class. Then she’ll read the posts of three of her classmates, her blog buddies, and send comments to them of her reaction to their posts on the topic. While on her blog, she approves a comment from a woman in Great Britain who found her site a few weeks ago. They have been regularly reading each other’s blogs and sharing insights on the differences in human resources practice in the UK and the US through comments to posts each has made. Through this woman’s blog, she has located a great social networking site of human resource professionals from around the world, and she has begun to participate in the site activities: webcasts, chat sessions, and more.

Suzanne finds her mind wandering back to the dilemma in her own living room at home. The new puppy, at home with Dad this weekend, ate a good chunk of a living room sofa cushion last Tuesday. Puppy survived, but she’s not sure the family budget will. She’s considering learning how to re-upholster the piece herself and wonders, “How do I get started with this project?” She opens up her smartphone and accesses the Internet again. Her personal learning network includes classmates, colleagues from work, church, and professional organizations in and around her local community. She sends a tweet via Twitter to several of these groups and asks, “Who knows how to upholster a sofa, or has a contact person who might be willing to teach me?”. She knows from past experience that she is likely to turn up more than one valuable lead.

Meanwhile, daughter Emily is asking her mom for help with a homework assignment on the Galapagos Islands. “Tonight, before I leave for the school reunion, we’ll go online and see what kind of great photos we can find on Flickr that you can use for your poster.” Suzanne knows that this social media site is a great source of photography resources shared by people around...
the world. Photos accessed through the Creative Commons digital copyright can be remixed and used if credited. Next, Suzanne connects to a social networking site, Facebook, and sends a message to her friends and contacts: “Has anybody ever been to the Galapagos Islands, and can you tell me about your experience?” By the time the girls are settling into the hotel after dinner, Suzanne has three contacts with insights on the island wildlife, and email, Twitter, and site links to dozens more resources and contacts provided by them to help her daughter. She’s also located a lecture via the MIT Open Courseware Project on the Galapagos which she thinks her daughter will be able to use to learn what she needs for the school project. Suddenly, they hear the airline boarding announcement. “At last!” she comments. Now, if she could only quit worrying about how to train the puppy, she would feel that things are under control—at least for today.

More than any other personal characteristic, self-directed learners exercise autonomy (Caffarella, 1993). Learner control is the hallmark of their experience and also why it is so personally rewarding. Not only is the learner in charge of when learning takes place, the learner sets its direction, occasionally under the guidelines of an assignment or instructor, but always with the opportunity to explore, experiment, and engage with multiple others who have become part of a virtual community (Downes, 2007). The learner defines the extent and limits of participation, building a network composed of professional as well as personal contacts. The tools used to do this, however, are not necessarily intuitive to most adult learners, who need to be introduced to the concept of a PLN as well as the practical strategies for accessing and creating content on blogs, wikis, podcasts, and other social media. Here is an important role for the adult educator who has adopted Web 2.0 technologies for educational purposes to model the practices inherent in a participatory culture. Yet, while the Web has radically altered the possibilities for learning in a networked world, our institutions of higher education and the pedagogical practices that exist within them are struggling to keep up with changes in what it means to be literate in the digital age.

**DEVELOPING NEW MEDIA LITERACY IN A PARTICIPATORY CULTURE**

Learning in a digital, networked world is often in sharp contrast to many of the pedagogical traditions still deeply embedded within our institutions of higher education (Davidson & Goldberg, 2009). Wesch (2008) contrasts the messages presented by many existing physical structures and assumptions about teaching and learning with the opportunities presented by a social Web:

> While most of our classrooms were built under the assumption that information is scarce and hard to find, nearly the entire body of human knowledge now flows through and around these rooms in one form or another, ready to be accessed by laptops, cellphones, and iPods. Classrooms built to re-enforce the top-down authoritative knowledge of the teacher are now enveloped by a cloud of ubiquitous digital information where knowledge is made, not found, and authority is continuously negotiated through discussion and participation. (para. 16)

Since the current generation of college students has scant memory of days before the Internet, Davidson and Goldberg (2009) suggest that a participatory culture is no longer exotic or new to today’s undergraduates, but a commonplace way of socializing and learning (p. 13). Participatory learning, however, is not simply about interaction as a consequence of ubiquitous access but, rather, about learning from others who may be strangers, who may choose to remain anonymous, and whose institutional status and credentials may be
unknown (p. 16). Many of our traditional ways of thinking about what counts as knowledge and who generates it are altered in a participatory culture: “In the current academy, virtually everything in a scholar’s life is based on peer review and institutionally ordained authority. Who counts as a ‘peer’ is carefully defined ….With participatory learning these conventional modes of authority break down” (p. 17).

What, then, does it mean to share and build resources, to become literate in the use of new media in a culture of learning through participation rather than mere access? Jenkins (2006) defines a participatory culture as follows:

A culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one’s creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices. A participatory culture is also one in which members believe their contributions matter, and feel some degree of social connection with one another. (p. 3)

To become competent in this participatory culture is a new form of literacy, one which builds on traditional literacy skills of written expression, research ability, general computer skills, and critical thinking (Jenkins, 2006). Jenkins asserts that a participatory culture marks a shift in focus from individual expression to community involvement as learners acquire social skills of networking and collaboration (p. 4). The learner’s response to this emergent and participatory Web is the PLN, customized and self-organized to meet the unique learning needs and interests of an individual at any given time. Creating a PLN, however, requires a special set of skills as learners learn to negotiate meaning, engage with diverse others, and collaborate in new ways.

The skills that are needed in a participatory culture include many of the mainstays of adult education practice re-formed in the environment of a social Web. Others that are newly valued in today’s work environment that are described by Jenkins (2006) include skills such as (a) simulation, the ability to interpret and construct dynamic models of real-world processes; (b) distributed cognition, defined as the ability to interact meaningfully with tools that expand our mental capacities; (c) collective intelligence, the ability to pool knowledge and compare notes with others toward a common goal; (d) judgment, the ability to evaluate the reliability and credibility of different information sources; (e) networking, the ability to search for, synthesize, and disseminate information; (f) negotiation, the ability to travel across diverse communities, respecting multiple perspectives, grasping and following alternative norms; (g) appropriation, the ability to meaningfully sample and remix media content; (h) multitasking, the ability to scan one’s environment and shift focus as needed to salient details; and (i) transmedia navigation, the ability to follow the flow of stories and information across multiple modalities (p. 4). To this impressive list of the demands placed upon a 21st century learner, Jenkins adds the ability for play through experimentation and performance as a form of improvisation (p. 4). Learning through participation not only involves use of these skills, but such learning has the capacity to enlarge a learner’s worldview as a consequence of using them.

Learning within a Network Comprised of Communities of Practice

Learning in a participatory culture takes the form of communities of co-learners organized within a virtual network, drawing its explanatory power from social network theory with its concepts of nodes and ties (Freeman, 2004; Granovetter, 1983). Social network theory views individuals (as nodes) tied to others in connecting links that vary in strength and centrality within the social structure. Many different types of ties can exist
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between individual nodes in a social network (often displayed in a diagram much like a concept map) to explain the different relationships among people. Social network analysis allows researchers to examine a complex set of relationships between members of a social system (Freeman, 2004). Small, tight networks are often less valuable than large, open networks with many loose connections (weak ties), since the more open and diffuse networks are likely to result in more new ideas and diversity of perspectives (Granovetter, 1983).

This analogy is an apt descriptor for individuals connected within a PLN. The greater the number of loose connections, or weak ties, the more wide-ranging are the possibilities for diverse viewpoints, different sources of knowledge, and enhanced learning as a result. Creating a network of many different connections that vary in the strength and intensity of relationships within them becomes a central feature of a PLN. Learners build relationships within many different virtual communities as part of their personal networks.

Weinberger (2002) suggests that the Web has transformed our notions of time, space, self, knowledge, and even reality itself as we learn in the digital age. Many of our time-honored assumptions have been turned upside down. An individual can create and manage an online persona that may differ dramatically from the person known to his or her neighbors. As members of a PLN, we have the ability to explore alternative ways of relating through simulations, crossing time zones and cultural borders with the click of a hyperlink to transport ourselves into new worlds. Opportunities exist to create a social network composed of multiple sources of knowledge, becoming a member of many different virtual communities by sharing in their practices as we learn what interests us. Our network is enabled by many small pieces, the social media of the Web, loosely joining us to potential colleagues, collaborators, co-creators, and knowledge-sharing individuals, resources, and tools (p. 25).

Among the possible communities within a PLN that Warlick (2009) describes are those with professional colleagues, associations, people within one’s extended family, local community groups, or those known through casual relationships. These are usually personally created through synchronous communications, connected in “real time.” Other communities within a PLN exist as either personally or socially maintained semi-synchronous connections of mobile telephones, Twitter, blogs, wikis, and social networks such as Facebook or LinkedIn. The learner also has the ability to receive content and information resources through many dynamically maintained asynchronous connections enabled by an RSS content feed reader, such as Google’s Reader or Bloglines, so that resources are available when the learner has time to access them. Blog content and content tagged through social bookmarking sites can be collected and aggregated in this manner.

To enable adult learners to succeed as active, engaged members in this participatory Web culture rather than as onlookers, they need role models, mentors, and instruction in how to use digital media tools. The practices made possible by these tools are neither intuitive or self-evident to most learners (Nugent, 2009). Much more is being asked of learners than Spear and Mocker (1984) observed 30 years ago when they first conceived of the immediate environment as an organizing circumstance for learning. Because the environment has changed so dramatically, learners will need to extend their capacity to learn within communities made possible by Web 2.0. This requires a new knowledge base of possible resources and the skills to learn how to use them.

Helping Adults Learn How to Learn in a Participatory Culture

Much of the language surrounding SDL emphasizes learner control of the process as well as the content of learning: indeed, the concept of learner autonomy has become a major research
stream within the literature on SDL (Caffarella, 1993; Guglielmino et al., 2004). This focus on the autonomous individual has resulted in many misconceptions that SDL is largely a solitary activity. To the contrary, numerous scholars have explicated the relational nature of SDL (Brookfield, 1985; Candy, 1991; Peters & Gray, 2005) by describing the need for instructors, mentors, and other helpers to guide the learner along a process that scaffolds them into the level of skill and knowledge required as they move from a state of dependency to independency (Grow, 1991).

Innovative educators who are leading the way by adopting PLNs for their own personal and professional development have offered several strategies to help others learn how to introduce social media into the classroom experience. If educators want to help learners learn how to learn, they will need to experience the navigational skills needed in the participatory culture of the Web for themselves so that they can then model these practices. Nielsen (2008) has suggested several steps that an educator can take to begin building a PLN to illustrate the practice for learners. The first of these is to join a professional social network. Examples of social networking sites for educators include Classroom 2.0 (http://www.classroom20.com/), EduBlogger World (http://edubloggerworld.ning.com/), and Flat Classrooms (http://flatclassrooms.ning.com/), among others.

Each of these exists as a virtual support community for educators interested in adopting Web 2.0 tools and strategies for learning in the classroom setting. In these networks, adult educators, as well as educators from the K-12 world, share their ideas, practices, and tips on what makes for successful learning by using digital media. An educator can glean many insights from the experiences of others simply by joining one of these social networks and listening to the ongoing conversation that takes place through blogs, comments, and online forums. As an educator who is new to social media begins to learn the unique language, norms, and conventions of one of these virtual communities, he or she is likely to experiment with new ideas, and eventually becomes comfortable enough to contribute to the ongoing virtual dialogue. This is an important first step in making the transition to learning through a PLN.

Nielsen (2008) recommends that educators then choose five blogs of interest and begin to follow them, setting up an RSS feed reader for subscribing to their content. Educator blogs can be found via a blog search engine or through many of the blog hosting services that cater specifically to educators. Walsh (2009) has provided blogging resources for educators, including an extensive list found at SupportBlogging.com (http://supportblogging.com/Links+to+School+Bloggers), as has Warlick (2009) in his blog, Warlick’s CoLearners (http://davidwarlick.com/wiki/pmwiki.php?n=Main.EducatorsGuideToBlogging). As adult educators become familiar with reading the blogs of their PLN, they are in a position to transition from reader to writer by leaving comments on the blog sites they follow.

Nielsen’s (2008) final recommendation for immersion into the practices of a PLN includes joining the microblogging community by following well-known educational bloggers on Twitter (http://www.twitter.com). Twitter has been described as “an online application that is part blog, part social networking site, part cell phone/IM tool, designed to let users answer the question ‘What are you doing?’” (Educause Learning Initiative, 2007, p. 1.). However, many users have adopted the available 140 character writing space to post “tweets” that contain online resources or ask questions of the contacts they follow in these communities (p. 1). Launched in 2006, Twitter has become a popular Web 2.0 application since it can also be accessed through mobile telephones. Many educational blogs provide links to blog authors’ Twitter sites.

Each of these small forays into the world of Web 2.0 technologies moves the PLN creator down a path of engagement into multiple virtual communities of practice. From these small begin-
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nings, a network begins to take shape in a unique configuration that reflects the personal interests and goals of the adult educator who hopes to model the practices involved in a participatory culture in order to teach them to others. Once the educator has experienced the benefits of SDL through digital media, it then becomes possible to guide learners through a similar process. Assignments can be created to engage learners in seeking resources and creating new media content by accessing their emerging PLNs. Novice learners need multiple opportunities, tutelage, and feedback as they begin to adopt the 21st century skills as outlined by Jenkins (2006). Many traditional practices in adult learning, particularly those intended to engage learners in reflective practice, can be enhanced through PLN participation.

IMPLICATIONS OF THE PLN FOR SELF-DIRECTED LEARNING IN THE FUTURE

Within this chapter, we have suggested that the growth and evolution of the World Wide Web as an environment for accessing, creating, and sharing information has generated new and unprecedented opportunities for SDL. In continuing to look toward the horizon, one thing is becoming increasingly clear: Educators will need to rethink teaching and learning based on a model of information and resource abundance. Adult learners in this new digital age will have access to unlimited knowledge resources with the capacity to connect to virtual communities that share interests on any topic imaginable. More learning will be self-directed as these opportunities for informal learning become blended with and complement formal learning contexts where learners interact as content creators and collaborators. Within this learning ecology, the ability and skills to create PLNs will likely be an imperative.

Insightful adult educators will recognize both the amazing potential as well as the significant challenges brought about by these new opportunities. However, the skills and abilities to create and engage in PLNs will neither be obvious nor the inherited trait of a particular generation. Learners will need guidance and mentoring from skilled practitioners who can serve as role models for learning in these new contexts. This may necessarily cause us develop new understandings of the roles of teachers and learners, as well as the nature of authority and expertise. Within the concept of a PLN, we are witnessing a flattening of traditional roles and hierarchies with expertise linked to collaboration as well as the creation and sharing of quality content. The value of SDL will be enhanced by the capacity to connect with and participate in a community of co-learners.

Ultimately, while PLNs represent a new era of digital innovation in SDL, they are also signaling the human capacity to educate further than we have ever been able to before. Knowledge has been set free, and in the process has empowered all of us to learn through connection and discovery in ways that are necessary for adapting to a continuously changing world. The emergent potential of the PLN for enhancing SDL is limited only by our imagination, interests, and personal desires, both as educators and as learners.

REFERENCES


**KEY TERMS AND DEFINITIONS**

**Community of Practice:** A naturally-occurring group of practitioners in a particular knowledge domain who develop shared language, norms, and negotiated meanings in a socially situated context.

**Distributed Cognition:** The ability to interact meaningfully with tools that expand one’s mental capacity.

**Incidental Learning:** Learning that occurs as a byproduct or unintended consequence of another activity.

**Informal Learning:** Learning through life experiences.

**Formal Learning:** Learning that takes place in a classroom or institutional setting.

**Participatory Culture:** Collaboration with others and sharing of Web-based resources to create new content and construct knowledge.

**Personal Learning Network (PLN):** Social ties with multiple people and resources through virtual communities of practice that contribute to individual learning.

**Self-Directed Learning (SDL):** Learning that is initiated and controlled through a learner’s actions and initiative.

**Situated Learning:** Learning that takes place in the same context in which it is applied.

**Social Network:** A social structure composed of individuals, organizations, or groups who are connected through their relationships in an interdependent manner.

**Web 2.0:** Digital media tools as well as the practices involved in using them for engaging, collaborating, and sharing information and content on the World Wide Web.