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Joseph Moses
University of Minnesota

Ann Hill Duin
University of Minnesota

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Intercultural connectivism and personal learning networks in course redesign

Joseph Moses and Ann Hill Duin
University of Minnesota, USA

Introduction

As the call for proposals to this special issue states, “the need to share our pedagogical knowledge is paramount.” We agree that “the assumptions underlying much of contemporary communication pedagogy are oversimplified and fraught with groundless stereotypes” and that pedagogical change amid the increasingly globalized and networked classroom has been too slow. Participants need multiple means to understand and increase their capacity for working interculturally and in global virtual teams. One such means is through the pedagogical deployment of personal learning networks.

A personal learning network is a collection of people, information resources, organizations, and other connections that a networked individual values because the connections support and contribute to learning interests. Participants map and evaluate their personal learning networks and report advantages of engaging with topic-specific resources--bloggers, branches of social networks, and conferences, for example--to gain exposure to cultural and disciplinary values. PLNs enable participants to seek support for their learning inside and outside the formal class of participants, to identify gaps in learning resources, and to discover culturally-based assumptions about professional identity, knowledge creation, knowledge sharing, and the knowledge most worth having. We refer to course participants rather than students to reflect an expectation that teaching and learning roles be assumed by everyone involved in a personal learning network.

According to Couros, “personal learning networks are the sum of all social capital and connections that result in the development and facilitation of a personal learning environment” (2010, p. 125). In their investigation of personal learning networks, Rajagopal, Joosten-ten Brinke, Van Bruggen, and Sloep (2012) stress that “the skills at the centre of networking involve an ability to identify and understand other people’s work in relation to one’s own, and to assess the value of the connection with these others for potential future work... Networking supports group formation for the purpose of awareness-raising and/or socio-economic progress.” Learning

and value are generated through “making connections” with people and information sources of the network in the course of following workflows of various complexity from the individual to the community-oriented to the global.

The image in Figure 1 includes characteristic components of a personal learning network.



Figure 1. Components of personal learning networks. A shared learning interest is the basis for connections with others in a personal learning network.

Recent debates about the locus of knowledge ask whether individuals or groups possess knowledge most worth having (Downes, 2012), and therefore which skills for accessing and assessing knowledge arising out of dyadic (Lankau & Scandura, 2002) and networked relationships (Mackey & Evans, 2011) deserve the most attention. The number of worldwide Internet users grows and the pace of growth accelerates, raising questions about the number and character of learning strategies to pursue even as the occurrence of intercultural communication increases in frequency and importance (St. Amant, 2011). Furthermore, educational theorists working on the possibilities and opportunities afforded by networked learning posit that “the epistemology of networked learning is in essence that knowledge emerges or is constructed in relational dialogue or collaborative interaction—knowledge is not a property but a social construction/way of knowing from our experience of the world” (Dirckinck-Holmfeld et al., 2012). Forming and maintaining personal learning networks is a viable strategy for intercultural learning because emergent learning—learning that occurs as a result of participant/participant interaction instead of teacher mandate—occurs at multiple points of contact and interaction afforded by the network.

Stakes in this debate about the locus of knowledge are not trivial. Connectivist perspectives on learning disrupt what Hofstede has called the archetypal relationship of teacher/student interaction (1986). Established so early in life, reinforced and embedded culturally in domains of family, work, and education, the teacher/student relationship is infused with role expectations that guide a range of social behaviors learned early and practiced daily. As others have pointed out, those relationships have a role in determining structures for learning. One example is when the authority of the instructor is activated by a prescribed course of study through which the instructor guides a class of students. In contrast, connectivist approaches to learning are guided by self-organized flows of information and insight. Knowledge activation occurs in exchanges between participants (Williams, Karousou, & Mackness, 2011).

Our deployment of PLNs seeks to increase opportunities for connected learning. How can participants in an intercultural domain of exchange expand their capacity for intercultural learning? In the section that follows we explore implications of connectivist learning for course redesign and ask how participants in globally networked PLNs can promote learning.

Connectivist learning

Connectivism is a theoretical framework developed to reconceptualize knowledge in light of new technologies and environments for learning. Introduced in two publications, Siemens' (2005) *Connectivism: Learning as Network Creation* and in Downes' (2005) *An Introduction to Connective Knowledge*, these collective works provide a framework for understanding modes of learning in a networked age. Siemens (2006, pp. 45-46) further proposes that connectivist learning is a process of engaging with knowledge in increasing complex ways through six stages. In what follows, we include Siemens' names for the six stages and discuss the stages using our own terms to describe how the stages inform intercultural connectivism.

1. Awareness and receptivity

Amid unending waves of new information, it is important to control, channel, and delimit attention and energy to avoid being overwhelmed. A key function of the PLN in this regard is to channel these enormous flows of information in the service of specific learning interests. A PLN provides focus and, if you will, protects the landscape from invasive (distracting) species of learning interests. Receptivity to precepts of connected learning begins with awareness of information abundance and a need to manage information flows (p. 45).

2. Connection forming

Learning interests promote connections, and connections sustain learning networks. Participants who are encouraged and supported in ongoing information creation followed by information sharing sustain personal and professional learning networks. Sharing of information leads to response, and response leads to new insights (p. 45).

3. Contribution and involvement

Participation requires sustaining levels of comfort in the network sufficient enough to foster productivity. Participation becomes vulnerable to exigencies of social presence, inclusivity, and autonomy, so preparation and support are required. Participants gain visibility within the

network by making contributions that demand social engagement, without which responses the viability of the network is in question (p. 45).

4. Pattern recognition

In sustainable networks, participants increase competencies of support, instruction, dialogue, and pattern recognition. Sustainable intercultural networks invite discussions about the culturally-situated nature of learning, knowledge, and network relations (p. 46).

5. Meaning-making

In this stage individuals understand meaning through pattern recognition, trend spotting, by identifying opportunities to make changes, and by adapting and responding to multiple perspectives. Meaning-making is a reflective activity but it is also a creative and reciprocating activity of exchanging points of view. Discussion and analysis are identity-centered, not participant-centered. Networks move beyond awareness and tolerance of cultural differences toward expertise in knowledge creation adjusted to the audience-author relations of the network (p. 46).

6. Praxis

Recursive practices evolve to include reflection on the value and purpose of the network itself, leading to changes in network structure. Evaluation and interpretation of connections lead to additions, changes, or deletions of particular connections (p. 46).

Our interest is in exploring how this progression from stage to stage in the maintenance of a PLN can engender intercultural competence.

A key challenge is to determine which exercises and assignments, within a one-semester writing or communication class, will achieve this goal, and perhaps even more important, which exercises might travel with the participant throughout a program or curricula. Personal learning networks (PLNs) are one manifestation of connectivist learning perspectives (Siemens 2005) in which we are working to build capacity for intercultural learning.

Developing capacity through PLNs

Next we explore this curricular dimension of PLNs by providing example assignments that we have designed and used over the past academic year, and we examine PLNs from three participants in terms of Siemens' six stages.

We want to explore how PLNs can help participants advance connections, increase intercultural understanding, and advance future employment. We structured assignments that asked participants to

- Develop a PLN in order to document connections with people and resources. Such assignments raise awareness about varieties of resources and connections valued by participants;
- Curate resources and develop connections throughout the semester as a means of

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exploring ideas and recognizing learning patterns practiced by participants;

- Increase understanding of resources and ways of knowing within cultures and disciplines in order to plan a research project;
- Document changes in thought regarding the value of different resources and express those changes to others;
- Develop a PLN that includes a career-development focus and rationale. A PLN can advance future employment by making connections to resources outside of the formal course, to continue making connections, and to sustain professional development.

Assignment sequences that support advancement through stages of development in networked learning move participants along a continuum of increased engagement with others, from reading and following to initiating and inviting connections from within and then across cultural boundaries.

In the example assignment, below, we take participants through a process for identifying and developing their PLNs. Initial objectives were for participants to understand the purpose of PLNs, reflect on their personal learning interests and networks, and practice developing a valuable learning artifact. To date, we have used PLNs in three courses as part of technical communication programs at the University of Minnesota: International Professional Communication (for advanced undergraduates and masters-level participants), Information Design (for masters-level participants), and Professional Practice (for masters-level participants).

To introduce PLNs, we asked participants to reflect on these questions:

- How do you work? What are your essentials for being productive?
- Where do you get new ideas? and from whom do you learn?
- What social networking tools do you use?
- How do you connect with others in ways that are meaningful to you?
- What do you gain from those connections?

Sample assignments

Personal Learning Networks (PLNs)

Learning Objectives

By the end of this activity you will be able to

- Discuss the characteristics of learning relationships you value most
- Visualize your learning interests in the context of knowledge sources you value most
- Reflect on characteristics of information you value most

This lesson is designed for identifying and developing your PLN.

Personal Learning Networks can become a lifelong tool for learning from and with others. Like social networks that help you learn about what people in your life are doing, personal learning networks connect you with people and what they know and what they're interested in knowing. They also connect you with more information, tools, and organizations than you are likely to be able to discover on your own.

PLNs develop on the basis of learning interests. Participants connect and share information with each other on the basis of learning interests they share. But PLNs are not limited to connections to individual people. They include organizations, events such as conferences, content resources such as libraries, and online communities. They also include bloggers and the people you follow on Twitter, LinkedIn, Instagram, Pinterest, and other online resources.

PLNs thrive on exchanges of information about what you know or are learning. You share that knowledge in the form of learning artifacts.

Learning Artifacts

A learning artifact, for our purposes, is something you craft out of what you know or are learning. An artifact may be a video or a presentation about what you have learned, or it may employ what you have learned in the design of the artifact. For example, if you have recently gathered information about graphic-design skill of page layout and learned several principles for optimizing layouts for readability, you might use that information for a video about principles of effective page layout. To employ what you have learned, you could use the principles of effective layout in a page layout you design for a project you are working on. Then you might annotate the page to identify the design principles you used to format it.

Learning artifacts give you an opportunity to write for readers who expect to be rewarded for their attention with something they value. When people are rewarded, they want to connect again.

Specifics of the activity

1. Create a visual representation of your PLN.
 - a. Your job is to create a visual representation of your PLN using Text2MindMap or Coggle or another visualization tool.
 - b. Include introductory information that orients readers to the visualization, with information based on the following questions:
With regard to one or more specific connections
 1. How much do you value that connection?
 2. How much do you value that connection's networks?
 3. How important is the connection's professional reputation to you?
 4. Rate your level of trust in this connection.
 5. How like-minded are you with this learning connection?
 6. How strong is the potential for exchanging information with this connection?

7. How high is the likelihood of you sharing a learning artifact with the connection or node (a node is a collection of related connections)?
 8. What is the potential for learning from this connection?
- c. Publish your visualization and comments, and link us to it for further discussion about the variety of motives participants have for connecting with others.

*Adapted from Rajagopal, K., Joosten-ten Brinke, D., Van Bruggen, J., & Sloep, P.B. (2012). Understanding personal learning networks: Their structure, content and the networking skills needed to optimally use them. *First monday*, 17(1.2).

<http://firstmonday.org/ojs/index.php/fm/article/view/3559/3131>

PLN visualizations from participants

Figure 2 below includes a PLN developed by an undergraduate in technical communication who works in a major Minnesota corporation in which he assists with global pharmacy operations. This example is the participant's third such draft. It is in this example that we see PLNs as a potentially rich context for making cultural values for information, knowledge, and learning transparent, as he used the PLN assignment to explore Asian culture and his understanding of work/life balance.

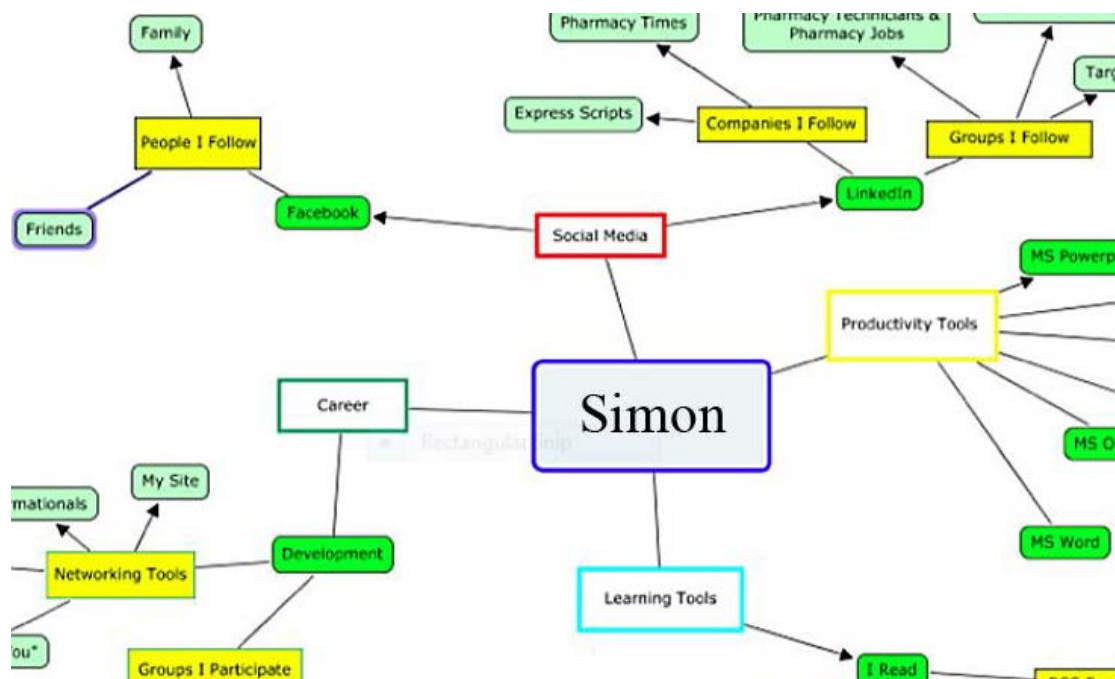


Figure 2. Example PLN from an undergraduate participant in technical communication. Square-cornered rectangles indicate participant's categories of connections.

In the remainder of this section we describe how two international masters-level participants, Hyo and Kyubok, developed and refined their PLNs while participating in two of the three courses in which we deployed PLNs in the past academic year. Both were participants in the Master of Science program in Scientific and Technical Communication who were on study leave from their work as patent engineers with a major electronics corporation in South Korea. Each

had previously completed a master’s degree in software engineering, and each agreed that we might use his PLN to advance understanding of the use of these in professional and technical communication. (Their names have been changed.)

Learning Activities

Visualizing PLNs takes place early to build awareness of the connections by which participants already learn. Many are not aware of how often they connect or how expansive (or narrow) their knowledge networks may be. In the two participant examples that follow, both include segments that respond to the questions listed above, mainly highlighting the tools they used and providing little context about what was being gained from the tools and connections.

Figure 4 is the first PLN developed by Hyo. Note his use of categories—Technical Writing, Patent, Technology, and Tool--as a way to provide focus and give the PLN a structure. These interpretive and evaluative moves are vital to initial network visualization. With the evolution of PLNs, learning interests may be refined or redirected, connections to information opened or closed, but they always reveal values and the significance of learning connections. In addition, these evolutionary steps have the important function of controlling numbers and types of connections and their resulting information flows from exceeding manageable thresholds.

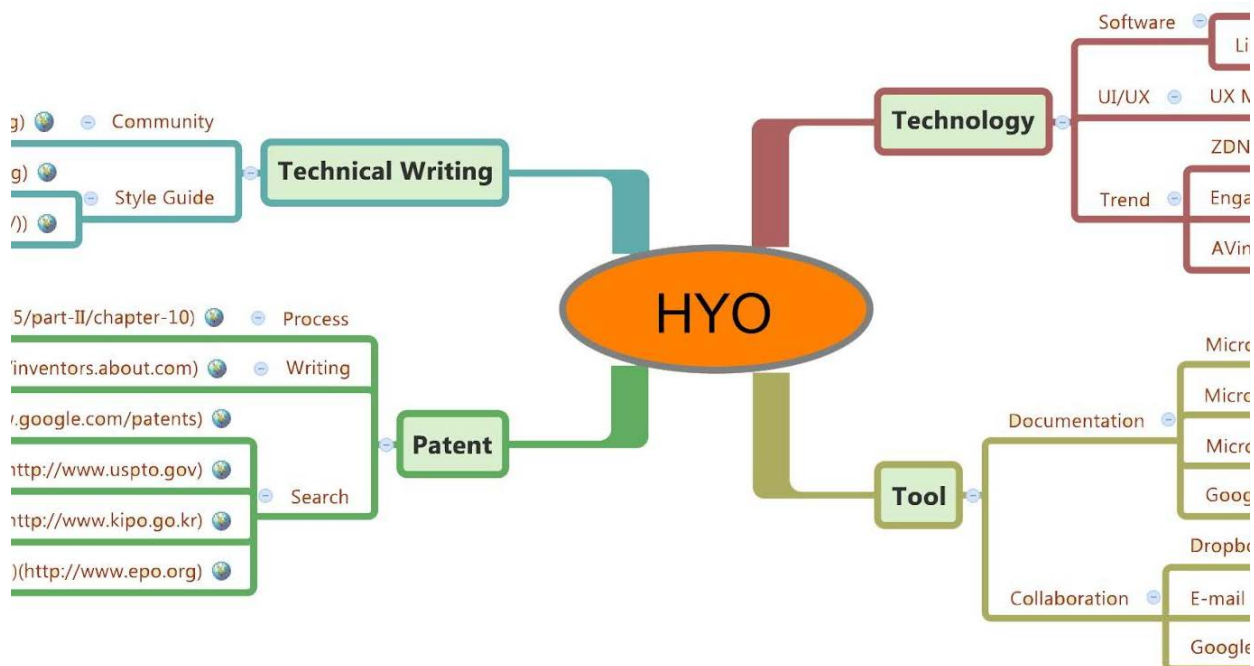


Figure 3. First PLN developed by Hyo, cropped and enlarged to show detail. Initial visualizations of PLNs may reflect the perception that 1) the individual resides at the center of the network, and 2) valued nodes are ones that provide information to the individual at the center.

Figure 4 on the next page includes the final PLN developed by Hyo. Note his continued use of the four categories and the tremendous expansion (and highlighting) of “Social Network” in each category. In this case, throughout the duration of two courses and multiple PLN drafts, Hyo clearly advanced through Siemens’ six stages, forming connections with scholars (stage 2) and

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increasing his level of comfort with becoming more involved in the social networks (stage 3). Evidence of pattern recognition (stage 4) comes in his cross-referencing of social network tools in each of his four sections.

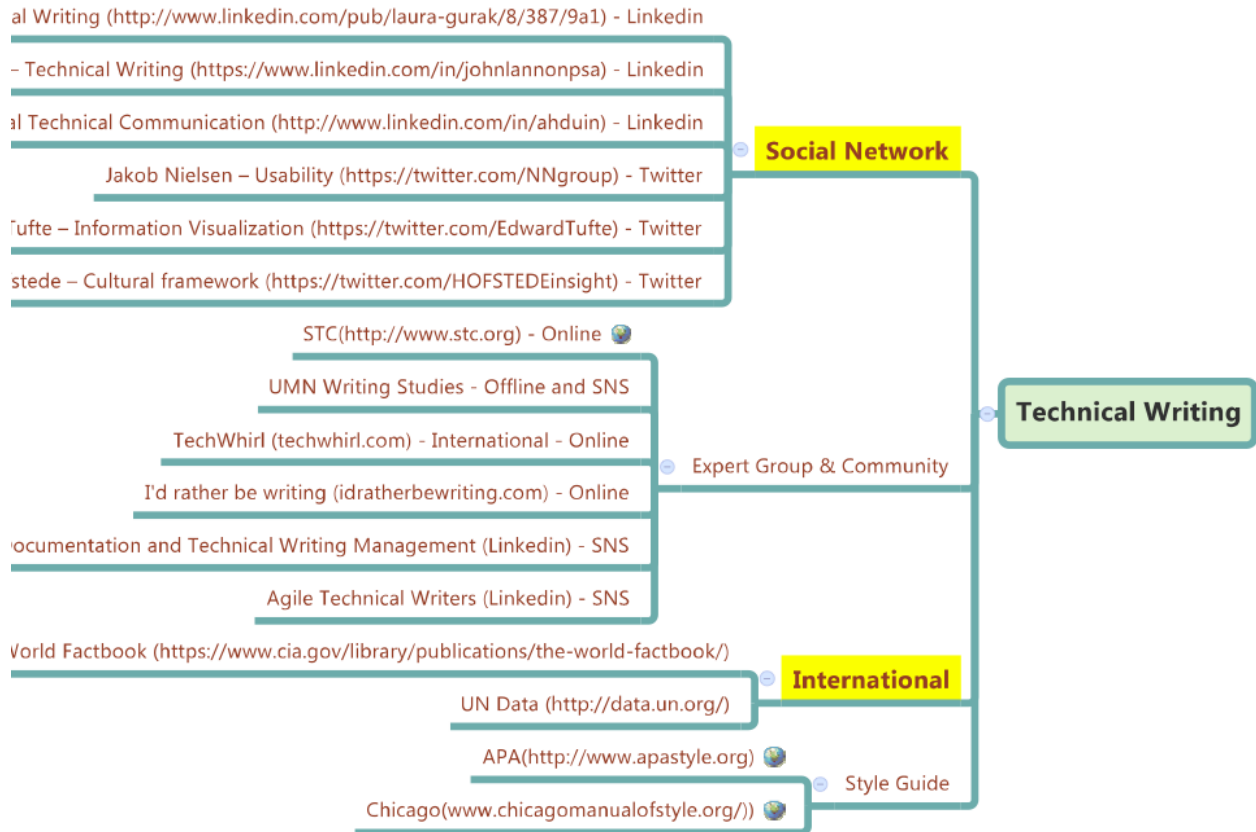


Figure 4. Visualization of Hyo's final PLN. Cropped and enlarged to show detail. Network growth increases opportunities for knowledge exchange and community membership.

Hyo included the following explanation about his final PLN:

To create the final version of my PLN, I focused on experts and the social networks that connect them. Using the older website method, I needed to visit their websites regularly. However, social networks allow me to subscribe to their most recent updates without additional effort. When I like or follow their social network pages, I am able to automatically receive their messages.

From this class, I read various articles related to international issues, so I added the authors of popular articles to my PLN. In addition, I added various twitter pages which are related to my professional area such as patent, technology, and tool. The owners of these twitter accounts are people and organizations. For example, the owner of https://twitter.com/EdwardTufte is a person - Edward Tufte, while the owner of

<https://twitter.com/googledrive> is an organization. However, for me, there is no difference. I'm able to receive their recent news and send my feedback to them.

Key here is his statement that he now feels empowered to send feedback to them. Hyo's expressions of preference for expert connections opens a door to conversations about the knowledge most worth having. Stage 3 connectivist learning (Siemens, 2006) "requires sustaining levels of comfort in the network sufficient enough to foster productivity. Participation becomes vulnerable to exigencies of social presence, inclusivity, and autonomy." At this stage confidence and comfort are vulnerable to risks that follow from connecting, namely the risks of not receiving a response, of being subjected to attitudes that are not conducive to fruitful exchange, and to culturally-based interpretations one neither anticipates nor may be able to recognize. In that respect, Stage 3--Contribution and Involvement--is a mid-term learning outcome worth measuring.

A component of our master's program is an exit interview with each graduating participant. As part of the exit interviews for spring 2014, participants were asked to describe their experience of developing and visualizing their PLNs and what they valued most from the assignment. During Hyo's exit interview, he shared the following:

I'm interested in software patent drafting; the mindmap is very helpful for describing the hierarchy. The PLN helped to identify a major gap or need for a software patent writing resource in Korea. You know, [a competing company] vs [his company] is the current war. I need to prepare for the future war.

PLNs - blogs - are important to follow. They are all Americans, so it helps to understand U.S. thinking.

It was difficult to begin, difficult to start. I didn't know this method; it is pretty good to describe my resources, my network. I am using mindmap [tool] because it is easy to add to. I intend to use it in the future. By creating this PLN, I discovered this gap.

The PLN led to my discovery of a research direction. [But] I hesitate to contribute my opinion as I am part of [company]. It could cause a big problem if I contribute.

On the Wordpress site, I did not use my name -- because I wanted to express my opinion. After returning to Korea, I will check on the level of opinion that I might be allowed to share. It depends on my boss.

Hyo's concluding remark, "It depends on my boss," might represent a collectivist's loyalty or an individualist's independence. In isolation we cannot know whether Hyo's remark represents the influence of a corporate culture or of a national culture. US employees routinely express similar concerns out of deference to corporate hierarchy and communications policy even while asserting the individualist's right to express divergent opinions.

Figure 6 includes the final PLN developed by a second participant, Kyubok. The two major

categories he uses in his PLN are “learn from” and “new media.” Arranging his subcategories into outline form gives us the following:

1. Learn from:
 - a. work (collaborative)
 - b. work (individual)
 - c. traditional media
2. New media:
 - a. video streaming
 - TED
 - YouTube
 - b. social networking; note the expansive links here under LinkedIn and the many connections on Plain Language and Technical Communication, indicating his focus areas in the program and in his masters-level research
 - c. Internet; including his search tools
 - d. RSS Readers (Feedly); note this largest section, again including sections on Plain Language and Technical Communication

In describing the second draft of his PLN, Kyubok wrote the following:

I am interested in technical communications, technologies, and patents, so I am trying to extend my network in these fields. LinkedIn has many groups in the fields of my interests and some of them are especially active. I joined them to obtain the latest news and discussion about topics in the fields. If I participate in the discussion and activity in the groups, I will be able to become acquainted with people who are knowledgeable in the fields.

My previous personal network was limited by physical distance. For example, some in my network had attended the same school as I had, and others had worked with me. However, there are more people who have something in common with me outside of my physical distance. Using the ideas of PLN, I am extending my personal network with LinkedIn and RSS and reaching some people who were outside my physical distance before. Thanks to my PLN, I have started to follow many blogs and have joined many groups, such as those that address cross-culture and technical communication, which I want to learn.

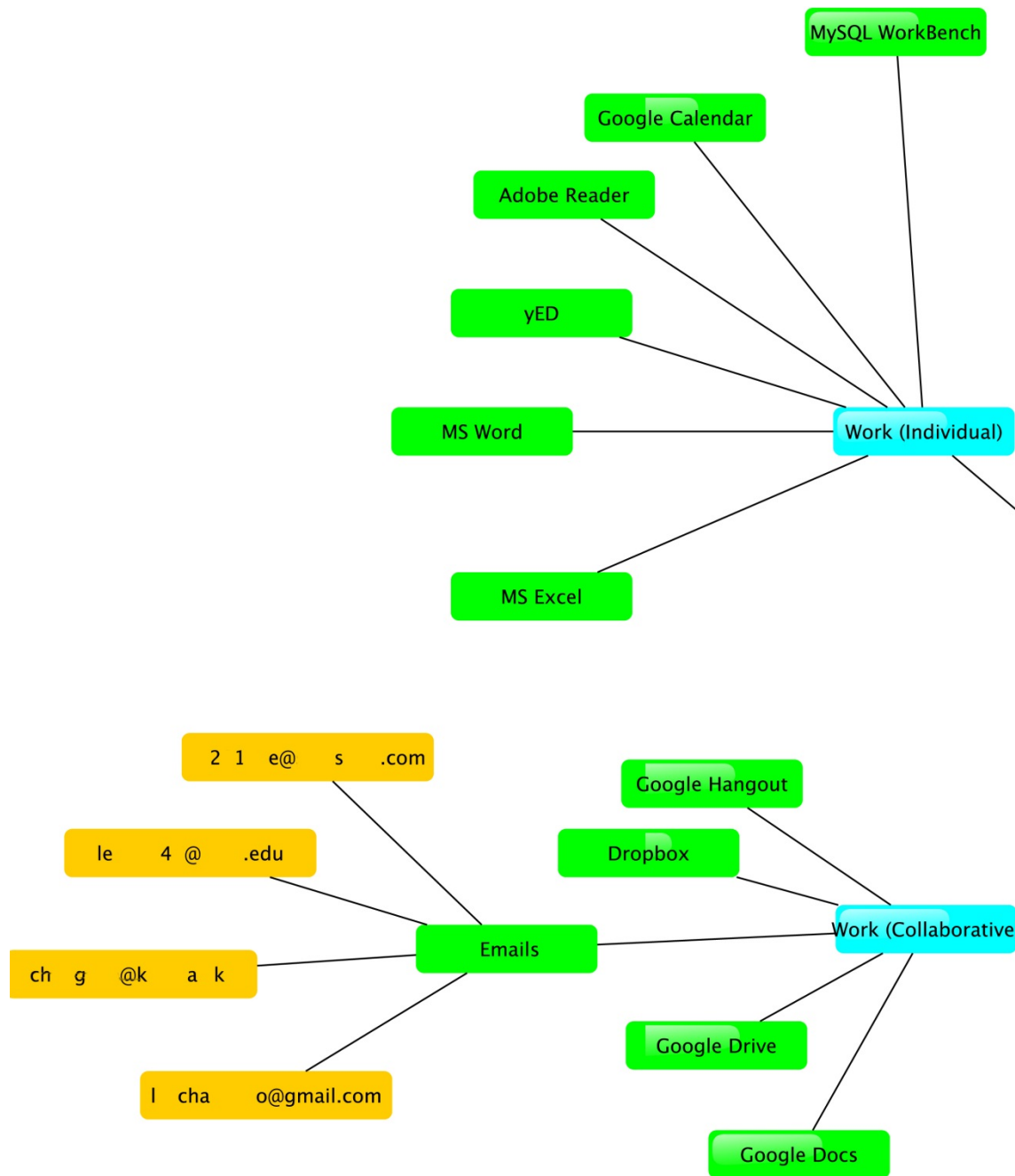


Figure 6. Kyubok's PLN work branches. Email addresses are obscured to protect privacy. Image is cropped and enlarged to show detail.

This increasing focus on technical communication is evident in the segments of Kyubok's final PLN included in Figures 7 and 8. Both social networking and RSS Readers sections include a focus on technical communication. Figure 7 illustrates the new connections and forums that Kyubok became active in (Siemens' stage 2), and Figure 8, in addition to increased focus on technical communication, indicates pattern recognition and recognition of culture (stage 4).

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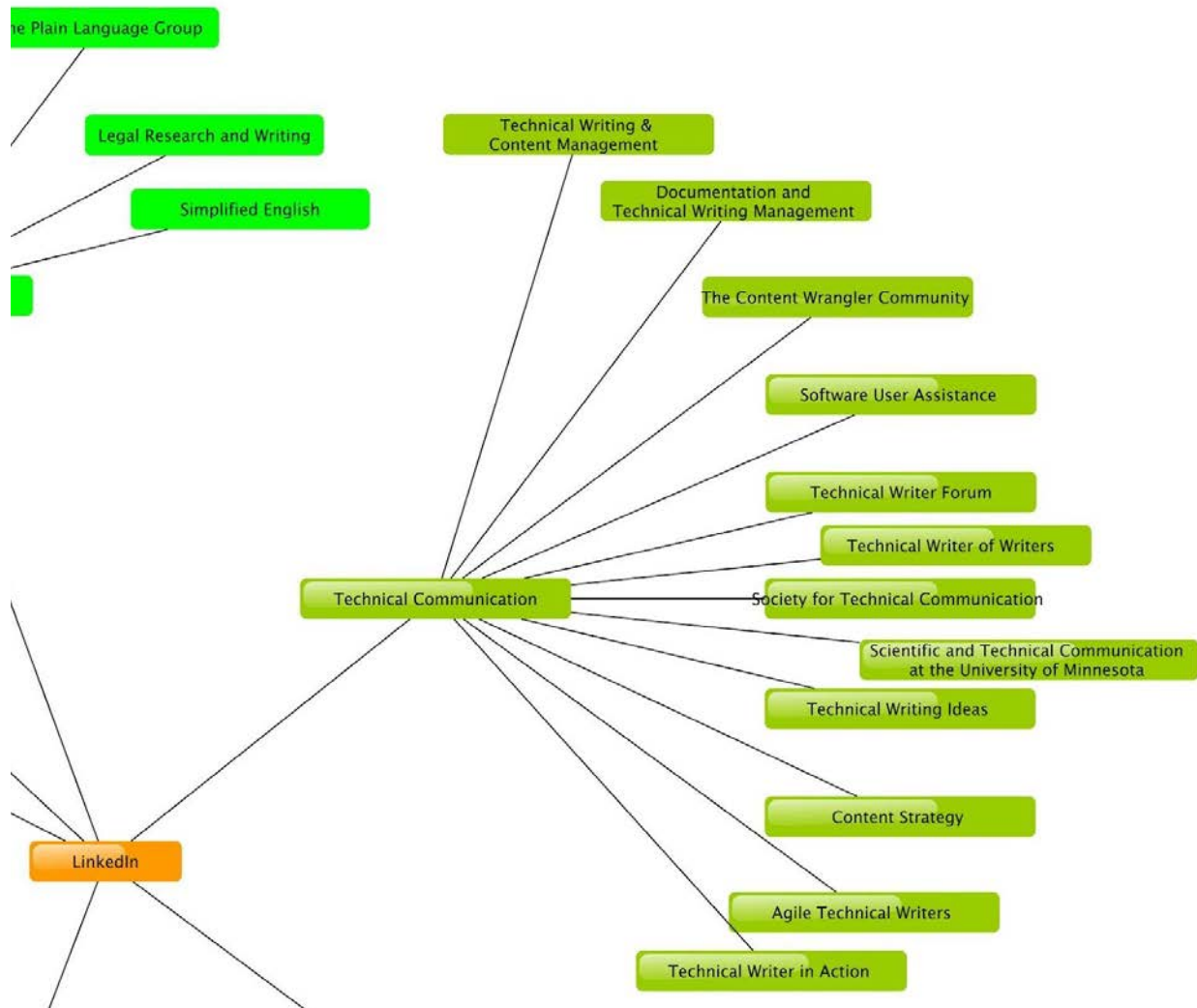


Figure 7. New connections and forums for Kyubok. Cropped to show detail.

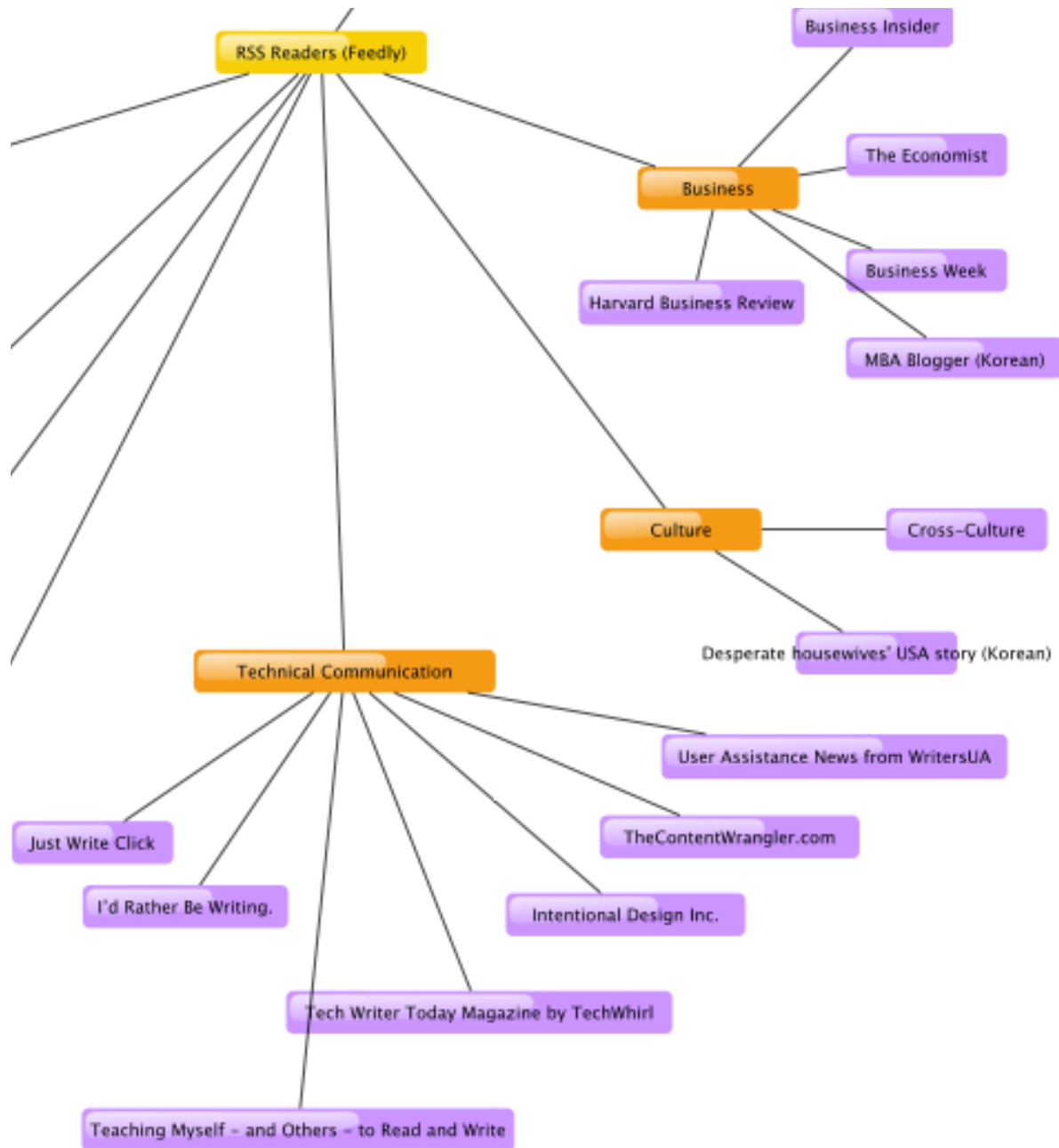


Figure 8. Pattern recognition by Kyubok, Cropped and enlarged to show detail.

During his exit interview, Kyubok shared the following:

This gave me a chance to broaden by PLN. I thought that PLN can help me, but Dr. Redish [with whom he connected online as a result of his PLN work] helped me a lot.

Staying connected is a good thing for my future... I don't know the future. I will need and use this... and grow it continuously.

I primarily read blogs and use RSS reader. Check interests and read them. It's

opportunity. PLN is a thing I can use when I need help.

[My company] has all 'closed' systems; thus, difficulty in using PLNs for outside work. My PLN is separated: private and [company].

A PLN is not a Western only thing. It is a big power to know someone who can help me. [My company] is so large, so the PLN there is very large.

In both cases, Hyo and Kyubok were well aware of which elements in the network served useful purposes and which elements should be eliminated or separated. This distinction indicates praxis, Siemens' stage 6, a cyclical process of reflection, experimentation, and action, in which the learner critically evaluates the tools, processes, and connections with respect to the larger context of work and world. Changes made to the PLN on the basis of critical reflection are essential to sustained viability of networks.

Discussion

The purpose of this paper has been to propose a pedagogical tool--personal learning networks (PLNs)--as a way to increase intercultural learning capacity. We initially believed that establishing and maintaining PLNs would promote greater disciplinary competence in technical and professional communication; the idea of increasing intercultural competence emerged during deployment as participants began to reveal preferences in their networks and to discuss the values they held toward knowledge, information, and learning. The organic, value-based nature of these revelations led us to explore the potential of PLNs to increase intercultural competence. PLNs reflect an intentional strategy for learning with others, and they thrive on learning interests, so we have explored the implications for connected learning in PLNs when the network is comprised of intercultural participants.

Connectivism has strong implications for rhetorical notions such as purpose, audience, and context in intercultural networked learning. The sharing goals of connectivist learning drive the search for new knowledge, new reflection and synthesis; thus a participant's rhetorical purpose is to engage others in an intentional process for knowledge sharing and creation. A key goal in an intercultural networked learning environment is accounting for degrees of fit (Thatcher, 2012) between communication media and rhetorical purpose. PLNs developed for intercultural connections can lead to expressions of learning that lend transparency to values within the learning environment.

The construct of audience changes in a cultural learning network--from traditional notions of a destination (conveying knowledge to) to an inclusive construct for creating knowledge with. Audience is neither implied nor assumed but engaged by expressions of learning. Another goal of the learning network is to account for rhetorical traditions regarding audience, purpose, and medium by supporting expressions of learning about all three.

Contexts for learning in cultural learning networks are shaped by arguments and perspectives among network participants--and by the genres and formats with which they are familiar (Thatcher 2012). Use of media as determined by rhetorical situations should be organic by cultural tradition, with media selection determined by the initiating participant. Such contexts

can support the generation of taxonomies of representative genres and rhetorical situations of use.

We outline areas for knowledge creation in intercultural PLNs with the following prompts:

- Describe the reasons you typically share what you've learned with others.
- Describe relationships you have that intentionally result in learning.
- How do you typically gather and share information with others? To what end? By what means do you gather and share the information?

We encourage these prompts because behind them are value-based questions that result in rich conversations about attitudes and preferences for learning.

Further Research

Personal learning networks suggest promising directions for sharing knowledge in learner-centered environments for intercultural learning. Models for intercultural networked learning provide pathways to engagement for participants, whether or not they share cultural values, when the learning interest is intercultural learning. We have proposed that a connectivist learning model supports expressions of learning about cultural values and furthers the cause of greater transparency of culturally-situated expressions of concepts such as knowledge, information, and learning. To deepen our understanding of the potential for PLNs and intercultural connectivism we encourage research on how PLNs shape intercultural dialogues about knowledge creation and sharing. How might PLNs be used for information exchanges across cultural borders, and what can technical and professional communication programs learn when they seek connections across disciplinary ones?

Thank you to Simon, Hyo, and Kyubok for their generous permission to include their visualizations in this article.

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