Volume 13, Number 1: February 2012
ISSN: 1535-0975

Journal of Literacy and Technology
Volume 13, Number 1: February 2012

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Introducing Accessible ICT to Teacher Candidates: A Way to Address Equity Issues

Zuochen Zhang, Ph.D
Faculty of Education
University of Windsor, Canada
zuochen@uwindsor.ca

Wayne Tousignant, Ed.D
Faculty of Education
University of Windsor, Canada
tous@uwindsor.ca

Shijing Xu, Ph.D
Faculty of Education
University of Windsor, Canada
shijing@uwindsor.ca

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Abstract

With the development of Information and Communication Technologies (ICT) in the forms of hardware, software and network, educational settings are increasingly utilizing technologies as a means to enhance or complement teaching and learning. However, as ICT are not only related to knowledge and skills of the implementation of technologies, but also closely related to social and economic issues (for example, the digital divide), it is necessary to create an awareness of these issues among pre-service teachers and expose them to possible solutions to such problems. The authors of this paper teach different subject areas in a teacher education program in Canada, and they introduced various kinds of accessible ICT to their teacher candidates as a way to address equity issues regarding the use of ICT.

Keywords: Accessible ICT, education, equity, teacher candidates

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Background

Information and Communication Technologies (ICT), in the form of hardware, software and network, are utilized in the settings of education for the purpose of facilitating and enhancing teaching and learning (Kent County Council, 2004). These technologies have been found to be helpful for improving students' conceptual understanding (Zhou, Brouwer, Nocente, & Martin, 2005), for expanding the scope and the depth of teachers' teaching (Becker, 2001), for supporting inquiry, collaboration, or re-configured relationships among students and teachers (Committee on Developments in the Science of Learning, 2000), and for encouraging students to engage actively in their learning (Cradler & Bridgforth, 2002). The topic of ICT for education is also related to equity issues such as gender, intellectual disability, physical disability, and the digital divide (Anderson, 2009). The ability to use and to invent advanced technology is a central force in globalized economic competitiveness, thus technology literacy is a crucial element for students' future careers (Hargreaves, 2003). In order for ICT to be effectively utilized in schools, teachers need to be specifically trained such that they know how to integrate ICT into their teaching and the existing curriculum (Batane, 2004; Jacobsen, Clifford, & Friesen, 2002; Markauskaite, 2007; Mitchem, Wells, & Wells, 2003; Yildirim, 2000). Teacher candidates who have recently graduated from teacher education programs are expected to have a reasonable knowledge of how to use ICT (Gülseçen & Kubat, 2006; Montgomerie & Irvine, 2001), and the training for technology is suggested to be emphasized during teacher education programs (NEA Education Policy and Practice Department, 2008). The knowledge of ICT should not only mean "hardcore" knowledge and skills concerning hardware, software, and network, but also include equity and social justice issues related to ICT, so as to "close the gap" in the pursuit of equal outcomes (Secada, Fennema & Adjian, 1995).

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Teacher education programs usually use a variety of means to expose and model the use of ICT to teacher candidates, but ICT literacy means more than the basic development of skills, as this literacy involves the development of "a full range of creative abilities to make use of digital technology, alongside the critical understandings required to make best use of digital technology" (Selwyn, 2011, p. 135). It is also found that teacher candidates' attitudes and perspectives regarding ICT knowledge and skills are closely related to how they will use ICT in their future teaching (Sasseville, 2004).

In recent years, the infrastructure of ICT including various kinds of hardware, software and Internet access has been greatly improved in schools across Canada. However, as an example of the digital divide in Canada (O'Brien, 2001; Stephenson, 2003), schools are not equally equipped with ICT in terms of hardware, software, or Internet access. In order to prepare teacher candidates to deal with such situations, besides teaching and modeling the use of commonly used hardware such as digital cameras, digital camcorders, data projectors, and software packages such as Microsoft Windows, Microsoft Office, and Apple application software, we introduce other commonly accessible hardware and software including portable music players (e.g., iPod, mp3 or mp4 players), inexpensive video recorders (e.g., Flip video camcorders), alternative measures for interactive learning (e.g., *Wiimote* Whiteboard), Open Source software, and other widely available software to our teacher candidates as a way of addressing equity issues related to the use of ICT for teaching and learning. We also extend the students' conceptual approach to commonly used software packages by demonstrating alternative repurposing of software designed for a specific task (e.g., PowerPoint can be used for desktop publishing) and challenge students to problem solve inequity through reinvention.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

The Context and Activities

The context of this paper is a teacher education program at a mid-sized Canadian University. The consecutive teacher education program is 36 weeks long with 12 weeks devoted to teaching practice, organized in three or four blocks. This pre-service program, at least in recent years, has had an immensely diverse student population. These teacher candidates are enrolled in divisions of Primary/Junior (P/J), Junior/Intermediate (J/I), and Intermediate/Senior (I/S). The pre-service teachers' age range is between 20s and 50s. All of the teacher candidates possess a bachelor's degree and some have completed a Masters or higher degree, prior to enrolling in the pre-service program. The percentage of teacher candidates who have attained degrees from countries other than Canada has been steadily increasing, and their presence in the pre-service program provides a reminder for the need of inclusion in an increasingly global society. Based on the authors' observations of the teacher candidates, there is a wide variety in terms of their knowledge regarding creative and innovative uses of ICT (Bennett, Maton & Kervin, 2008), even though those of a younger age appear to be more fluent in terms of ICT use.

Teacher candidates in the J/I and I/S divisions are required to take an "Instructional Technology (Computer Methods)" course, which comprises a balance of theory and praxis. The course offers an introduction to influential theories related to the implementation of ICT in education and practice in application of ICT during practice teaching placements. In addition to this mandatory course, all subject areas within the pre-service program are expected to model the use of ICT. The P/J division does not offer a specific course on ICT, but as in the J/I and I/S divisions, instructors are expected to integrate ICT into their courses while modeling different uses of technologies. The authors of this paper teach in the fields of

Volume 13, Number 1: February 2012
ISSN: 1535-0975

ICT, Visual Arts and Second Language and Cultural Diversity, and their courses are offered to different divisions of the pre-service teacher education program.

Besides introducing widely used hardware devices and software packages, we also expose the teacher candidates to the use of different kinds of accessible ICT, with the aim of helping the teacher candidates to understand how commonly accessible ICT, such as portable music players, inexpensive image or video recording devices, Open Source software packages, online synchronous and asynchronous communication tools (e.g., social networking software, mobile phone), can be used for teaching and learning purposes, and how these usages can help address equity issues in different schools. The following is a brief description, with some examples, of how we implemented these technologies within the teacher education program.

Widely accessible or inexpensive hardware devices

Portable digital music players (or mobile phones with music playing functionalities) are ubiquitous among school students, and these devices can be used not only for entertaining purposes, but also as valuable learning tools. By demonstrating to our teacher candidates how free audio or video podcasts on various topics can be obtained from the Internet and subsequently listened to or watched over and over again on their portable devices, we helped broaden the teacher candidates' perception of options for these devices. In their post-practicum reflections, a number of teacher candidates reported that they encouraged their students to utilize the podcasts for learning during their teaching practica and received positive feedback. Besides discussions on topics related to inclusive education, teacher candidates in second language and cultural diversity classes learn how to produce video clips of different scenarios as a measure to get an in-depth understanding of inclusive education.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Through our demonstrations of the easily accessible devices, teacher candidates realized that they could take advantage of inexpensive video recording devices (e.g., Flip video camcorders or mobile phone with cameras) to make video clips and then edit them in Windows Movie Maker or iMovie to make short movies for their class presentations. Most of the classrooms in the teacher education program are equipped with interactive whiteboards (SmartBoards), as it is believed that "Classroom-based technologies such as interactive whiteboards are now widely felt to provide teachers with opportunities to alter their styles of teaching and modes of delivery" (Selwyn, 2011, p. 119), and some local schools also have such equipment available. However, the many schools do not have the funds for expensive equipments such as interactive whiteboards, so we demonstrated an alternative device introduced by All Together We Can. (2011), a "virtual interactive whiteboard" that is created by using an $8 LED light pen, a $40 Nintendo Wii Remote, and some free software. With the help of the step-by-step tutorial created by Sennott (2009), a few groups of teacher candidates created their own alternative interactive whiteboard for their after-class projects. It is observed that the quality of such alternative devices, more often than not, may not be found very satisfactory, or the process of making it work may be a challenging experience, but by presenting possibilities for alternatives, we raise the awareness of the teacher candidates that the creative use and reinterpretation of ICT can help to address equity issues in education settings.

Open Source and commonly accessible software

Guided by the notion that ICT are not merely related to knowledge and skills of technologies, but are also related to social and economical issues, we introduce Open Source software, such as Linux, as something "not technical but sociological" (Raymond, 2001, p.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

194) to emphasize the importance of collaboration among members in certain communities. We discuss topics on ICT and social issues and ask teacher candidates to do small research projects to acquire in-depth understanding of such discussion topics.

Most teacher candidates use Microsoft Office Suite as their primary application package, but some local schools have StarOffice or OpenOffice on their teaching computers instead of Microsoft Office. As an integral part of our education topic on ICT and equity issues, we introduce Open Source programs such as the Linux operating system ubuntu, and application packages such as StarOffice, OpenOffice, gimp, and audacity, which have similar functions of brand name commercial software applications but are significantly lower in price or free. We noticed that most of the time teacher candidates use computers for word processing or presentations, so through workshops, teacher candidates learn how to use easily accessible ICT for their schoolwork. As the netbook computers become popular and more wireless networks become available, we have found that it is useful to introduce Google Documents to our teacher candidates, which they can use to work collaboratively on their group projects without worrying about compatibility between different versions of software programs they have on their computers, or having to be in the same place at the same time. One teacher candidate commented in the formative evaluation on the course website that:

> Since we learned about Google Docs, we've been using it for our group projects. I also introduced it to my students during my practicum and the Associate Teacher and students were really impressed and said that they loved the idea of using such available programs they hadn't known about before. (Student reflection)

Teacher candidates are also taught how to use Dreamweaver, which is available on the computers in the teacher education program, to create Web pages or WebQuests, but the majority of the teacher candidates do not have this program at home. This barrier is overcome

Volume 13, Number 1: February 2012
ISSN: 1535-0975

through the introduction of alternative applications (i.e., Composer on SeaMonkey) instead of a reliance on commercial software programs. The following statement represents the opinion of many teacher candidates enrolled in the classes:

> Before I thought webpage creation was a mystery and we had to use expensive software to do it. Actually we usually only need to make basic webpages or make simple changes to them, so it's so good to know that such jobs can be done with free software. (Student reflection)

We also introduce the teacher candidates to the core programs that are provided within the Windows operating system such as WordPad, Paint, and Windows Movie Maker for simple word processing, image manipulation or video editing. Multi-modal communication is promoted throughout the pre-service program and cross-curricular projects provide the arena for setting for practice (Adobe Systems, George Lucas Educational Foundation and the New Media Consortium, 2005).

Social Networking Software

Social networking software such as blogs, wikis, MySpace, FaceBook and YouTube are quite widely used among students of all ages. These systems have the potential pedagogical values for creating an online learning environment to facilitate learner reflections and peer commenting (Mason, 2006). In this environment, if the learners are motivated to actively participate or engage in the space, then an online learning community can be built in which all the members can potentially benefit from learning together and learning from one another (Palloff & Pratt, 1999; Wenger, 2006). We demonstrate to our teacher candidates how these programs work and conduct in-class discussions as to how these spaces can be used for educational purposes. Some classes include the creation of blogs for teacher candidates to

Volume 13, Number 1: February 2012
ISSN: 1535-0975

complete case studies in small groups, and we have also introduced wikis as useful tools for language students to do peer editing. Most teacher candidates have their own FaceBook profile for social purposes, but some also use it for their professional development and networking. We do not only promote the educational uses of this online communication space, but also emphasize the issues related to the use of this space among young students, such as safety in the cyberspace, cyber bullying (Siegle, 2010), and equity issues caused by the digital divide. Especially among the younger teacher candidates, many preservice teachers take advantage of YouTube videos for their learning and incorporate them into their teaching. We have our teacher candidates discuss the pedagogical values and the proper use of such resources, and found that when teacher candidates get a substantial understanding of how to use social networking software for teaching and learning (especially for commonly used tools such as blogs, wikis, FaceBook, and YouTube), they become interested in exploring effective ways to motivate their students to involve in the potential learning community. It is within this context that the participants become active learners who do not only passively receive knowledge, but also actively and critically inquire (Steinweg, Trujillo, Jeffs & Warren, 2006).

Reflections from Instructors and Students

Our purpose of introducing accessible ICT in our teacher education classes is to create an awareness among the future teachers that ICT can be used to not only enhance teaching and learning in different subject areas, but also connect social development and address equity issues. As teacher educators from different disciplines, it is not easy to integrate ICT in specific subject areas, but by discussing and sharing as a group during course planning, we are able to generate ideas on how to make meaningful connections between ICT and subject

Volume 13, Number 1: February 2012
ISSN: 1535-0975

areas. We are also able to make efforts to model the use of ICT for various situations, and attentively draw students' attention to topics that are related to broader social issues.

When discussing with teacher candidates on what we did about accessible ICT and equity issues in the past few years, we were glad to see positive feedback from our teacher candidates. In class discussions and course reflections on the online course management systems, a number of teacher candidates expressed their appreciation for the introductions to the use of accessible ICT to address equity issues, saying that such introductions helped them realize that ICT have many more uses than they had understood before. In many occasions, equity issues do not get adequately addressed due to a lack of advanced and up-to-date equipment, but also due to a lack of knowledge and skills as to how educators can take advantage of what is already available.

Discussion and Conclusion

Educators are increasingly using ICT to enhance teaching and learning, and in various settings ICT are employed to address equity issues. However, the availability of ICT does not necessarily serve the purpose of overcoming or minimizing educational inequities (Warschauer, Knobel & Stone, 2004). We need to take all possible measures to create an awareness among teachers regarding the relationship between ICT and educational equity, and train them how to creatively utilize available ICT to solve the inequity issues that continue to exist in education. As teacher educators, we should introduce and model the use of ICT as an enhancer for the effective learning of diverse student population, while also introducing widely accessible ICT that create an awareness among teacher candidates as to how these types of ICT can be used to address equity issues.

Because of the current university and school policies, we do not pay much attention to

Volume 13, Number 1: February 2012
ISSN: 1535-0975

some of the technologies that are ubiquitous in everyday life today (i.e., iPods, webcams, palm devices and cell phones). We realize that there is an obvious need to introduce teacher candidates to how they can integrate these more prevalent types of ICT for educational purposes. Without doing so, teacher candidates may not be motivated, as what we teach does not closely relate to the reality of everyday life; this may limit their knowledge deepening and knowledge creation (UNESCO, 2008). Educators and administrators should continue to make adjustments to policies that, for example, forbid the use of cell phones in classes, so as to allow for their responsible educational use.

The practices we share in this paper reflect what we have done to address equity issues in a teacher education program in Canada through the use of ICT. Our purpose for doing this is to create awareness among colleagues who value ICT as an enhancer for teaching and learning, but also find difficulties to implementation that are caused by factors such as the diversity of the student population and the digital divide, that employment of alternative software could be one of the possible solutions for such equity issues.

We also hope that this sharing of our experiences may help our colleagues who would like to use ICT but are in the initial stage(s) of developing their ICT competence to realize that ICT mean more than audio/video or CD/DVD playing and PowerPoint presentation. If teacher candidates recognize pedagogical values of commonly used technologies, they may feel better motivated to embrace them, since it is possible for us to employ commonly used software systems to serve many teaching and learning situations.

Our experiences over the past few years convinced us that in regards to the utilization of ICT in educational settings, “the fundamental barriers to employing these technologies effectively for learning are not technical or economic, but psychological, organizational, political and cultural” (Dede, 2003, p. 9). If teacher candidates have a good understanding of issues related to the accessibility of ICT for their teaching and learning, they may make

Volume 13, Number 1: February 2012
ISSN: 1535-0975

efforts to find ways to decrease limitations caused by socioeconomic reasons and increase their personal confidence for solving technical problems.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

References

Adobe Systems, George Lucas Educational Foundation and the New Media Consortium. (2005). *A Global Imperative: The Report of the 21st Century Literacy Summit*. Retrieved Jan 25, 2009 from http://www.adobe.com/education/pdf/globalimperative.pdf

All together we can. (2011). Wiimote Whiteboard in Education: A Tutorial. Retrieved October 15, 2011 from *http://www.alltogetherwecan.com/2009/01/31/wiimote-whiteboard-in-education-a-tutorial/*

Anderson, N. (2009). *Equity and Information Communication Technology (ICT) in Education*. New York: Peter Lang Publishing, Inc.

Batane, T. (2004). Inservice teacher training and technology: A case of Botswana. *Journal of Technology and Teacher Education, 12*(3), 387-410.

Bennett, S., Maton, K., & Kervin, L. (2008). The 'digital natives' debate: A critical review of the evidence. *British Journal of Educational Technology, 39*(5), 775–786.

Becker, H. J. (2001, April). How are teachers using computers in instruction? Paper presented at the Meeting of the American Educational Research Association. San Diego, CA. Retrieved January 17, 2008 from http://www.crito.uci.edu/tlc/findings/conferences-pdf/how_are_teachers_using.pdf

Committee on Developments in the Science of Learning (Ed.). (2000). *How People Learn: Brain, Mind, Experience, and School*. Washington, DC: National Academy Press.

Cradler, J., & Bridgforth, E. (2002). Recent research on the effects of technology on teaching and learning. [online]. *WestEd*. Retrieved January 18, 2008 from http://www.wested.org/techpolicy/research.html

Dede, C. (2003). No cliché left behind: Why education policy is not like the movies. *Educational Technology, 43*(2), 5-10.

Godwin-Jones, R. (2003). Blogs and Wikis: Environments for on-line collaboration. *Emerging Technologies, 7*(2), 12-16. Retrieved October 19, 2011 from http://llt.msu.edu/vol7num2/pdf/emerging.pdf

Gülseçen, S. & Kubat, A. (2006). Teaching ICT to Teacher Candidates Using PBL: A qualitative and Quantitative Evaluation. *Educational Technology & Society*, 9 (2), 96-106.

Hargreaves, A. (2003). *Teaching in the knowledge society: Education in the age of insecurity*. New York: Teachers College Press.

Jacobsen, M., Clifford, P., & Friesen, S. (2002). Preparing teachers for technology integration: Creating a culture of inquiry in the context of use. *Contemporary Issues in Technology and Teacher Education, 2*(3), 363-388

Kent County Council. (2004). What is ICT ? Retrieved January 25, 2008 from http://www.kented.org.uk/ngfl/ict/definition.htm

Markauskaite, L. (2007). Exploring the structure of trainee teachers' ICT literacy: The main components of, and relationships between, general cognitive and technical capabilities. *Education Technology Research Development*,55, 547-572.

Mason, R. (2006). Learning technologies for adult continuing education. *Studies in Continuing Education, 28*(2), 121-133.

Mitchem, K., Wells, D., & Wells, J. (2003). Effective integration of Instructional Technologies (IT): Evaluating professional development and instructional change. *Journal of Technology and Teacher Education,11*(3), 397-414.

Montgomerie, C., &Irvine, V. (2001). Computer skill requirements for new and existing teachers: Implications for policy and practice. *Journal of Teaching & Learning,1*(1), 43-55.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

NEA Education Policy and Practice Department. (2008). Technology in schools: The ongoing challenge of access, adequacy and equity. Retrieved October 5, 2011 from http://www.nea.org/assets/docs/PB19_Technology08.pdf

O'Brien, R. (2001). Research into the digital divide in Canada. Retrieved October 6, 2009 from http://www.web.net/~robrien/papers/digdivide.html

Palloff, R.M., & Pratt, K. (1999). *Building learning communities in cyberspace: Effective strategies for the online classroom*. San Francisco, CA: Jossey-Bass Publishers.

Raymond, E. (2001). (Revised Ed.). *The cathedral and the bazaar: Musings on Linux and open source by an accidental revolutionary*. Sebastopol, CA: O'Reilly & Associates.

Sasseville, B. (2004). Integrating Information and Communication Technology in classroom: A comparative discourse analysis. *Canadian Journal of Learning and Technology*, 30(2), 5-27.

Secada, W., Fennema, E., & Adjian, L. (Eds.) (1995). *New directions for equity in mathematics education*. Cambridge: Cambridge University Press.

Selwyn, N. (2011). *Education and technology: Key issues and debates*. London, UK: Continuum International Publishing Group.

Sennott, S. (2009). Building and Using a Wiimote whiteboard in Education. Retrieved November 10. 2010 from http://www.alltogetherwecan.com/wp-content/uploads/2009/01/building-and-using-a-wiimote-whiteboard-in-education1.pdf

Siegle, D. (2010). Cyberbullying and sexting: Technology abuses of the 21st century. *Gifted Child Today, 33*(2), 14-16, 65.

Steinweg, S.B., Trujillo, L., Jeffs, T., & Warren, S.H. (2006). Maintaining the personal touch in a growing program: Strategies for establishing social presence in online classes. *Journal of the Research Center of Educational Technology*. Retrieved November 8, 2011 from http://www.rcetj.org/index.php/rcetj/article/viewArticle/81

Stephenson, M. (2003). The digital divide in Canada. Retrieved October 6, 2009 from http://www.slais.ubc.ca/COURSES/libr500/02-03-wt2/www/J_Voon/index.htm

UNESCO. (2008). *ICT Competency Standards for Teachers*. Retrieved June 4, 2010 from http://cst.unesco-ci.org/sites/projects/cst/The%20Standards/ICT-CST-Competency%20Standards%20Modules.pdf

Warschauer, M., Knobel, M., & Stone, L. (2004). Technology and equity in schooling: Deconstructing the digital divide. *Educational Policy*, *18*(4), 562-588.

Wenger, E. (2006). Communities of practice: A brief introduction. Retrieved November 2, 2011 from http://www.ewenger.com/theory/index.htm

Yildirim, S. (2000). Effects of an educational computing course on preservice and inservice teachers: A discussion and analysis of attitudes and use. *Journal of Research on Computing in Education*, *32*(4), 479-495.

Zhou, G., Brouwer, W., Nocente, N., & Martin, B. (2005). Enhancing conceptual learning through computer-based applets: The effectiveness and implications. *Journal of Interactive Learning Research*, *16*(1), 31-49.

Journal of Literacy and Technology
Volume 13, Number 1: February 2012
ISSN: 1535-0975

Reading Digital Communities, Publics, and Counterpublics: Sociorhetorical Heuristics in the Public Writing Classroom

Liberty Kohn, Ph.D
Rhetoric and Composition
Winona State University
LKohn@winonal.edu

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Erika Lindemann (2001) argues that rhetoric is both "a field of humane study and a pragmatic art; that is, we can read about it as well as practice it" (40). Discourse communities, publics, and counterpublics, each a construct of social rhetoric, certainly operate as this rhetorical duality wherein the concepts can be a group of people or a way of defining and reading said group. Our students have membership in a variety of socially and culturally defined groups, yet our students can benefit from using these socio-rhetorical concepts to define and interpret cultural, social or political groups unfamiliar to them, to read the goals and ideology of said groups, and to identify how a group's values and language practices change upon entry into the public sphere.

Students may struggle to define social groups and their rhetorical practices; technology, specifically, the remediation and non-linearity of texts and messages distributed or redistributed through digital communication and multimedia, adds another layer of complexity to student interpretation. This article will outline the applicability of the concept of discourse community as a heuristic for analyzing argument and public sphere rhetoric in technologically-mediated texts and dialogues. However, the concept of discourse communities cannot fully answer the *how* and *why* of both internal change and publicity over time (Deans 2010); thus, this article will close by suggesting several areas of public sphere theory (based upon a theory of multiple publics often labeled *counterpublics*) that can be borrowed to augment reading strategies for students defining the plural communities of the public sphere.

Reading strategies based upon these sociorhetorical member groups can lead to students' understanding of and eventually membership in a discourse community or public, which allows the student to write as a member of the group, not an outsider, and this budding

Volume 13, Number 1: February 2012
ISSN: 1535-0975

membership produces new potentialities for writing assignments. This facet of the reading-to-writing translation is particularly important for public writing or Writing-in-Communities courses—courses that typically require an experiential, public, service-learning, or intern writing role for non-academic audiences.

This article will first discuss the strengths and weaknesses of the concept of discourse community as a reading heuristic to prepare students to write. Next, the article will outline how the reading and interpretation process is compounded by the non-linear spatiality of digital and multimedia texts. Finally, the article will suggest several areas of public or counterpublic rhetorical theory that supplement the use of discourse community as a reading heuristic. As I have developed my own public writing course over several semesters, I have begun using the areas of private/public, circulation, and public issue vs. community to interrogate and supplement the use of discourse community in my own public writing courses. While my concerns apply to all writing, new media, or media courses, I hope to advance public writing heuristics and pedagogical conversation in particular.

Discourse Communities in Composition Studies

The history and use of discourse communities ranges widely, and the application of the concept continues to evolve in composition studies as new communities and forms of technological communities arise. Early in the 1980s, the term discourse community grew out of Martin Nystrand's (1982) concept of speech community. Members of speech and discourse communities will "recognize the conditions under which other members of the community believe it is appropriate to use" discourse conventions (Spolsky as cited in Paltridge 2006, 27). Discourse communities, however, are based around an activity, such as a community or occupational organization or association. The community has distinct goals,

Volume 13, Number 1: February 2012
ISSN: 1535-0975

values, beliefs, and social norms that are extant in the genres and other forms of communication that designate community membership.

In his often-cited *Genre Analysis: English in Academic and Research Settings*, John Swales (1990) argues that speech communities' major function is socialization and solidarity, whereas in a discourse community people are united and create genres to reach the group's goals. Swales states that

> [i]n a socio-rhetorical discourse community, the primary determinants of linguistic behavior are functional, since a discourse community consists of a group of people who linkup in order to pursue objectives that are prior to those of socialization and solidarity. (24).

The ability of a discourse community to address socially-constructed identity and goals as well as socio-rhetorical genre use made discourse communities a major feature of composition studies' social turn. James Berlin (1988) frames discourse community as a part of social-epistemic rhetoric, wherein the social-epistemic is "located in a relationship that involves the dialectical interaction of the observer, the discourse community (social group) in which the observer is functioning, and the material conditions of existence" (13). As the concept of discourse community slowly became discussed in mainstream composition research, Patricia Bizzell (1992) defined a discourse community as

> a group of people who share certain language-using practices. These practices can be seen as conventionalized in two ways. Stylistic conventions regulate social interactions both within the group and in its dealings with outsiders; to this extent "discourse community" borrows from the sociolinguistic concept of "speech community." Also, canonical knowledge regulates the world views of

Volume 13, Number 1: February 2012
ISSN: 1535-0975

> group members, how they interpret experience; to this extent "discourse communities" borrows from the literary-critical concept of "interpretive community." The key term "discourse" suggests a community bound together primarily through its use of language, although bound perhaps by other ties as well. (*Academic Discourses* 222)

Pedro Martin-Martin (2005) argues that Bizzell's conception, unlike Swales, does not delimit the concept of discourse community to stylistic phenomena; rather, Bizzell's definition allows for overlapping memberships to create conflict when a subject belongs to various communities (Martin-Martin 42).

Thomas Deans (2010) moves the concept past stylistic concerns, genre, and overlapping community membership when noting that the concept of discourse community helps explain communicational failure and success. Discourse community

> emphasize[s] the social nature of writing, […] help[s] us imagine how individual writing practices are situated within and shaped by their institutional and cultural contexts; […] and help[s] us explain how and why writers behave—even succeed and fail—in certain situations. (452)

It is exactly this—the success, failure, change, or unintended reception of community, public, or public/counterpublic communication—that is of interest in a course focusing on marginalized communities succeeding, failing, or being altered in the public sphere.

Problematizing Discourse Communities as a Heuristic

The concept of discourse community is not without its problems in both theory and application. Joseph Harris (1989) and Deans (2010) argue that the concept of discourse

Volume 13, Number 1: February 2012
ISSN: 1535-0975

community masks potential contradictions in a community, and David Russell (1997) and Deans (2010) report that the concept conceals dynamic interaction, fails to represent individual action and agency, and does not fully explicate "individual or collective changes over time" (Deans 453). Deans summarizes these failures as the failure to identify the *how* and *why* (452) of any activity in the discourse community or activity field. James Porter (1992) asserts of discourse communities a claim equally valid for their use as a reading strategy. Discourse communities can be "an unstable assemblage of faults, fissures, and heterogeneous layers […]"; yet a discourse community "nevertheless operates with some kind of regularity" (107).

Taken as an aggregate, these critics suggest that a discourse community can be useful in identifying and stabilizing into a set of practices both cultural and communicational activities, but the concept of discourse community may also operate metaphorically or discursively and not represent the full spectrum of ideology, conflict, and change within the community. I suggest this does not bar the concept of discourse community from being useful. Rather, compositionists must be aware of the concept's limits, and we must make our students aware of these as well.

Discourse Communities and Contact Zones

Despite these limitations, composition pedagogy found discourse communities and their mutual dialogue in "contact zones" useful in composition during the late 1980s and1990s as composition studies absorbed theories of social construction into writing pedagogy. The idea of a community or contact zone offered instructors and students a heuristic for identifying the operations behind inclusion and exclusion in a particular community or multiple communities, and these concepts allowed for a discussion of how

Volume 13, Number 1: February 2012
ISSN: 1535-0975

individuals form (or are formed by) values and take on roles according to expectations and environments.

Instructors of composition taught and continue to teach cultural and rhetorical *contact zones*, zones of cultural mediation where linguistic and literacy scripts come into contact with one another, with one script often positioned as the script of authority (Pratt 1991, 6-7). Patricia Bizzell (1997) suggests that a contact zone is "defined primarily in terms of historical circumstances, but with elastic boundaries. […] I submit that the United States is another such contact zone, or more precisely, a congeries of overlapping contact zones" ("'Contact Zones'" 738).

Students were often asked to write and speak, sometimes agonistically, the values and issues as a member of a discourse community during class. Joseph Harris (1997) documents the backfiring of this agonistic classroom use of "communities" and "contact zones" due to student resistance (119) that created hostility or non-critical silence in other students, the assignment, or the idea of social justice education.

Clearly the concepts of contact zone or discourse community are not to blame for the pedagogical backfire; rather, it is the form of implementation in pedagogy that can be useful, or not, in the classroom. Christopher Schroeder (2002) posits that contact zones can include the negotiation of discursive representations (198-99), which means that Schroeder's definition lends itself to analysis of multiple texts or dynamic interaction amongst community members. This definition delivers a broader view of how to use discourse communities in the writing classroom. A heuristic usage allows one to avoid direct ideological confrontation with or between students, but still utilizes the concept of discourse communities to scaffold students' evaluation of texts, intertexuality, and discursive representations.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

In *Writing as a Social Process*, Bruce McComiskey (2000) similarly discusses how his writing assignments and workshops focus on three levels—the linguistic, the rhetorical, and the discursive. McComiskey has students analyze texts for appropriateness and effectiveness, including his own students' letters of complaint written from their own university student community to other university communities, such as janitorial and administrative staff, who have different assumptions about the relationship between students and university services. McComiskey suggests that when his students choose an audience, they typically are successful on the linguistic and rhetorical levels, but they have trouble understanding the discursive values of the non-student audience to whom they write (14-17). Thus, the discursive values of a discourse community are a major obstacle to a student's effective entry into a community, understanding a community, or persuading a community different than one's own.

New Challenges: Digital Reading, Context, and Field Dependency

In the following section, I will outline in detail how discourse communities can function as heuristics for evaluating interaction and understanding difference between communities, reading audiences, and the technologies used by either sender or receiver. Before doing so, I would like to situate discourse community activity inside of technological communication. When a community uses technology to communicate its message, the technologically-distributed texts offer significant new semiotic layers that students must confront. These layers challenge students' reading and interpretation, and students must assess the *how* and *why* of technology use—two questions that, according to Deans, the concept of discourse community may struggle to resolve even without technological layers. This section will present some challenges of reading technology and multimedia.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Technology complicates an already complicated reading and interpretation process. One complication is what Jay David Bolter and Richard Grusin (1999) refer to as "remediation," wherein every message is simply a refraction of a previous message. In this poststructural view, no initial message exists. Technology certainly presents a reader with this problem, whether synthesizing multiple media resources into a compact visual/verbal/auditory message, or turning a linguistic message into a multimedia message, making a precise objective or original intention impossible to identify (and theoretically implausible as well). As Susan Hilligloss and Sean Williams (2007) suggest of a research paradigm based upon remediation, "A research program that engages digital visual texts as acts of remediation, showing how the visual frames the verbal, which frames the visual in an endless cycle of simulation clearly breaks down the visual/verbal binary" (239). Thus, remediation itself complicates the interpretive process for students assessing the argumentative claims, strategies, and logic of technological texts. Instructors modeling analysis would most likely seek to slow down the interpretive process and assess the verbal and the visual separately, yet as Hilligloss and Williams suggest, this binary may be arbitrary or non-existent, making an instructor's modeling problematic because of the non-linear reading process implicit in reading multimedia.

Even if a reader could perfectly separate the word and image, differences in reading the semiotics of writing and visuality would complicate both instructor modeling and a student's reading and interpretive process. Gunther Kress (2003) suggests that speech and writing are measured by a sequential logic of time, but visual argument is defined by space (1-2). The general effect of multimedia on the reading process is to create a non-linear reading process in which students are offered multiple semiotic codes, any of which may become the focus of interpretation. Kress suggests of new media that they

Volume 13, Number 1: February 2012
ISSN: 1535-0975

> make it easy to use a multiplicity of modes, and in particular the mode of image—still or moving—as well as other modes, such as music and sound effect for instance. They change, through their affordances, the potentials for representational and communicational action by their users. (5)

Again, even if a reader does separate the oral/written text (time-based literacy) from the visual (space-based literacy), visual text itself offers interpretive problems. J. Anthony Blair (2004) posits that "some visual propositions are intended as claims and others as reasons for those claims" (348). Furthermore,

> What distinguishes visual argument from verbal argument, then, are the differences in argument expression facing the arguer, and the hermeneutical differences in of identification and interpretation facing the interlocutor, audience, or critic. These are likely to create formidable practical problems for arguer and audience […]. (349)

Some media text may offer a clear hierarchy for interpretation, such as linear oral and written text that contains a controlling logic, semiotic code, and argument that clearly places the visual in a supporting role. However, as Jacob Stroupe (2004) points out, the relation between linear written text and visual graphics has been variable throughout the history of illustrated text. Stroup reminds us that a "hybrid literacy of words and images" can support, challenge, or frame the other's meaning, and they can create a gestalt meaning beyond either word or image. Thus, students may struggle to properly integrate the written with the visual. For example, even with the visual subordinated, students may still misidentify the rhetorical relationship in which the written and visual extend, contradict, or simply support each other to achieve an intended rhetorical effect. Separation of the written and visual doesn't

Volume 13, Number 1: February 2012
ISSN: 1535-0975

guarantee a socially expected recombining and interpretation by the reader. The choices are many and the potential for confusion or non-standard interpretation is great even in simple non-linear texts.

The aforementioned problems are representative of the challenges of reading non-linear texts in general. It stands to reason, then, that multimedia representations of a discourse community cause difficulty in interpretation not only because of the inherent discursivity of discourse communities, their "faults and fissures" (Porter 1992), but through the non-linearity of multimedia as well.

Turning from the text to the role of the reader, technology offers another challenge to the reader. Julia E. Romberger (2007) suggests that technology can also challenge reading and writing practices because of the role that technology initiates. She opines that

> when applying the concept of discourse community to an interface, the visual, textual, and even interactive aspects are seen as being informed by assumptions concerning the users' understandings of the discourse or, for instance, the electronic environment of other software. Because assumptions are made by developers about what users understand, it becomes clear that boundaries are being set that the users must learn to negotiate, assimilate, and perhaps recreate to achieve literacy in a digital environment and to use the environment to fulfill certain composing tasks. (259)

Software, programs, multimedia, and related technologies assume, and one could easily say prescribe, user identities that limit the user or force the user into particular, limiting reading and writing roles. For instance, Joshua Burnett, Sally Chandler, and Jackie Lopez (2007) suggest that technology adds a new dimension to the typical variables of "personality,

Volume 13, Number 1: February 2012
ISSN: 1535-0975

ethnicity, and ideology in multicultural classrooms" (320) because when using technology, students must choose a role of either a technologically-savvy "insider" or a technologically-resistant "outsider." Students must join an initial discourse community based upon their role, which is a response to technology as an object. Once the role has been chosen, the student can construct their "virtual selves to represent their interests, actions, and ideas" (324) on a range of issues, discourses and contexts. However, this membership to "tech-savvy-or-not" discourse communities complicates the reading and interpretation process. This additional membership can complicate the a reading of multimedia; yet a discourse community heuristic could potentially help identify this membership, which is embedded in more traditional cultural memberships (race, gender, class, etc.).

Having discussed the challenges of multimedia reading and the layering of readers' roles by technology, I'd like to conclude this section by discussing multimedia's position in field dependent argument. Both Barbara Warnick (2007) and Irv Peckham (2010) discuss a field-dependent, socially-defined model of argument based upon Stephen Toulmin's *The Uses of Argument*. In field dependent argument, the validity of an argument is based upon context and community standards. Validity is not based upon the argument's coherence with proper syllogistic forms of thinking because rational, representative arguments are never produced through field-independent mechanisms, whether cognitive or linguistic-logical. Toulmin ascertained that syllogistic mechanisms cannot consistently produce truths when used across a variety of argumentative or discourse fields. Rather, an argument's validity is only gleaned through its social context.

Irv Peckham argues that the concept of field independent argument is based upon claims of logic's congruence with cognitive operations producing persuasion; however, Peckham continues, logic's independence from context cannot substitute for the social nature

of discourse, ideology, and persuasion (50). Barbara Warnick extends field dependency to technology, arguing that the credibility (*ethos*) of a technologically-distributed argument is field dependent, not field independent (45), and Warnick suggests that technology itself is in part constitutive of the dependent field (48). I suggest the same is true for not only an argument's credibility, but for the validity of its *logos* and claim when technologically distributed. As Bolter and Grusin's remeditation theory suggests, any argumentative claim is mediated by its various methods of construction and delivery. If remediation changes the textual values, then according to the theory of mediation the current selected form of mediation must be a new dependent field with new, varied qualities of *ethos, pathos, logos* and other rhetorical formations. Thus, technology is part of the social fabric of reading and interpreting discourse communities' delivery through or by technology. Each mediation necessarily forces reassessment on the part of the reader.

Even without mediation, the process of reading and interpreting the non-linear verbal/visual hybrid messages is a minefield of disjuncture, competing goals, and attentional focus. The social nature of discourse, whether through technological remediation, technologically-dependent fields, or technology's ascribing of a limiting role to the reader, challenges the transfer of a reader's typical heuristics and reading strategies because of the unpredictable nature and new form of each new idea, text, and rhetorical field.

Discourse Community as a Heuristic

Because technology introduces these multiple layers of difficulty into the reading process, I'd like to discuss how discourse communities can function as a heuristic for technologically invented or distributed public dialogue. Because various literature enumerates differently Swales' original concept of discourse community (1990, 24-27), I have chosen to draw the

Volume 13, Number 1: February 2012
ISSN: 1535-0975

largest enumeration of Swales because the larger enumeration makes for a larger set of questions for students to use toward interpretation. Koester (2010) enumerates Swales' discourse community as the following:

1. has a broadly agreed set of common public goals
2. has mechanisms of intercommunication among its members
3. uses its participatory mechanisms primarily to provide information and feedback
4. utilizes and hence possesses one or more genres in the communicative furtherance of its aims
5. in addition to owning genres, has acquired some specific lexis
6. has a threshold level of members with a suitable degree of relevant context and discoursal expertise

From these basic traits, instructors can generate appropriate questions detailing public dialogue in communities, the genres used, and the effects or use of technology. Yet as Koester points out, the above enumeration details only the use of discourse (8). Thus, we arrive at the goal of transforming discourse community into the context of public sphere dialogue and debate.

I'll provide several public writing issues in the final section of this article that extend the discourse community categories offered here. Many more questions can be generated from the powerful concept of discourse communities. Here are the topics covered thus far that may enhance class discussion or scaffold student interpretation.

Public Dialogue

Genre/stylistics: Does the genre, style, or linguistic convention change when shifting from internal community messages of the public sphere? Why or why not? Does the original style or genre shift due to changes in technological distribution? How? Formal to informal? Text to image?

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Overlapping membership: What multiple community memberships exist in one or both sides of the dialogue? Which memberships are most prominent in the point of conflict? How does the reader have to accept a technologically-induced role to participate and interpret?

Success/failure of the message: Based upon consequent responses, how effective does the message seem to be? Are other participant communities responding sincerely? Snarkily? Is persuasion happening? Is the dialogue advancing, or is the original point of conflict still unsettled? What did a community have to surrender either stylistically or ideologically to be effective in the public sphere?

Technology

Remediation: What is the essential argument? Do some media garner better (more persuasive or dialogue-inducing) results? Is the message transformed over time or over technology? How do other communities summarize or paraphrase the argument differently over time?

Claims/reasons: When moving across media and gaining visuality, how are word and text used to separately represent claims and reasons? How do claims and reasons move between word and image as a message is remediated? Do you see implicit, constant, or purposeful uses of visuality, text, or space even as texts are remediated or altered? Is this of the community's doing or technology's?

Reading Role: What emotional dispositions might the technology (communication or materiality) itself offer to various users? Is the community in control of this secondary emotion? What role is a user/viewer of technology forced to accept? Can a reader actively participate or modify the text? How might the active or passive role change readers' response to the argument and dialogue presented?

Dependency/Validity: Which remediated and non-remediated messages appear more *logos*, *ethos*, or *pathos* based? Is this due to the technology's offerings (genre, visuality, video, etc.)? Is the community purposeful in its maximization of the above rhetorical effects through its technology selection?

Romberger adds two ecological categories that instructors may find useful when having students access the materiality of technology:

Exchanges: What are the relationships with other programs, hardware, and the operating system? What icons, terminology, and functions are

Volume 13, Number 1: February 2012
ISSN: 1535-0975

exchanged with or adopted from other software programs, hardware, or operating systems?

Evolutions: Is this item or aspect new? How has the new version changed it? Does it do more? Has it shifted location? (255)

In a composition classroom, the concept of discourse community as a heuristic can help outline not only the community, but its uses of technology as well. Instructors must include a space for interrogating technology in any heuristic given to students when assessing a community's values and activities. For the public writing course, heuristics should also engage inquiry into public dialogue. To not do so ignores the complicity of remediation, reading roles, and field dependency in a community's rhetoric.

Strategies for Reading a Problematic Public Sphere

`Raymond Williams defined all media production--information or entertainment-- as "talking together about the processes of our common life" (Williams quoted by Curran 1997, 33). Any writing course examining cultural or public discourse must account for traditional genres (fiction, non-fiction, autobiography, newspaper article, academic article, etc.), but the course must also account for technologically distributed texts and a community's rhetorical use of technology. I'd suggest that a complete course must also account for the potential to be misread because of technology's influence on invention, stylistics, genre, and delivery. But separating texts that belong to the public sphere and public conversation and texts that are "entertainments" can create a false divide and omit the social and public impact of non-expository or non-argumentative texts. Thus, in my own public writing course, I opt to include a variety of texts and ask students to evaluate them as political statements.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

James Curran argues that an inclusive theory of the public sphere must not be based upon only texts defined as rational-critical debate or texts that are "part of the flow of information between government and governed" (33). Rather, Curran argues that multimedia entertainment is as potent an argumentative weapon in the public sphere as political messages or propaganda. Entertainment can foster "empathetic insights [but] media entertainment can do the opposite: it can foster misunderstanding and antagonism through the repetition of stereotypes than provide a focus for displaced fears" (33). Thus, information and entertainment have a place in the public writing classroom.

Theoretically speaking, discourse communities cannot offer a complete analysis of the public sphere. John Trimbur (1997) has argued that left-wing critics are concerned that "social constructionist pedagogy runs the risk of limiting its focus to the internal workings of discourse communities and of overlooking the wider social forces that structure the production of knowledge" (440), and I would suggest that the same is true of using discourse communities as a heuristic to read socio-rhetorical activities. This section will summarize my three-semester history of teaching public writing to illustrate how I have carefully chosen debates from public sphere theory to augment and interrogate the reading of public groups and texts through only the concept of discourse community.

The first time I taught my departmental public writing course, *Writing-in-Communities*, a sophomore-level writing course required as an advanced writing course for a variety of liberal arts majors and typically populated with sophomore through seniors, I used only discourse community-based questions to help students interpret the variety of literature, informational, and multimedia texts we read and synthesized for low- to high-stakes writing assignments leading into their study and performance of public documents for a local discourse community. However, when using solely discourse community-based questions, I

Volume 13, Number 1: February 2012
ISSN: 1535-0975

found that students downplayed commentary on the process of technology and the political and popular culture genres it supported (music videos, newscasts, blogs, etc.). Students did not factor in how the technology may force a role onto the writer or reader or how genre constraints affected the message. We modeled the circulation and remediation of ideas by looking at publically offensive statements and apologies. To produce long-term modeling and a class project, we traced talk-radio shock jock Don Imus' offensive statement about the Rutgers' women's basketball team and Imus' subsequent apology from his own talk-radio show to national newspress in a variety of print and multimedia outlets. These included Al Sharpton's radio show, a network interview with Maya Angelou, and a variety of online news stories covering both the offense and the apology.

After this modeling, which traced circulation and remediation, when students performed their own analysis of a single issue across a variety of public texts, students did not extend their analysis as deep as I had hoped. Instead, students made one of several less penetrative interpretive moves:

- Students discussed the meaning of, for example, a hip-hop video as a message to be deconstructed, as opposed to discussing its reception by a variety of audiences (i.e. publics/communities) in a plural public sphere.
- Students imagined a text's reception in only a static or monolithic public sphere.
- Students considered popular forms of entertainment with political messages (a hip-hop video, for example) as a text to be received by only the community that produced it.

As I have now prepared to teach the course additional times, I sought scaffolding and heuristics for my students by reading specifically on public sphere and counterpublic theory to locate critical junctures. My goal was to turn public sphere theory into practices that may help students focus on a text's political message, discuss how its technological medium of delivery may affect (through remediation) a "core" message. I also wanted students to assess

how culture and attendant linguistic and rhetorical activity enters and is received by a plural public sphere that is constructed of multiple publics, yet holds within it mainstream, dominant codes and values that carry the threat of hegemony at any time.

One concept I introduced into my own course is the complication of the idea of a solitary or monolithic public sphere. Complicating (making plural) the concept of the sphere helped students remember that there is no "standard" reception for a text. Although I didn't present theorists for this sophomore-level writing course, I presented ideas from a variety of public sphere debates, which allowed both my own and the class's concept of the public sphere a variety of conversations and textures that increased the types of questions we could ask of texts and dialogue between communities.

The Complicated Public Sphere

In "Rogue Cops and Health Care: What Do We Want from Public Writing?" Susan Wells (2010) summarizes the original theory of the public sphere, as defined by Jurgen Habermas where the public sphere is not "a kind of writing, or an ensemble of genres" (153). Nor was the original formulation of the public sphere ever utopian, based upon forms of inclusion, or rendered as a preexisting site. Wells states that "[p]ublic discourse is a complex array of discursive practices, including forms of writing, speech, and media performance, historically situated and contested" (153). Robert Asen and Daniel C. Brouwer (2001) posit that the term Public suggests something potentially open to all, concerning all, known to all, or constituted by all; however, "[p]refixing 'counter' to these multiple meanings of "public" instigates a rich and varied set of conceptual understandings" (9). Nancy Fraser (1994) supplies a cultural critique of the public sphere based upon race, gender, and class. Fraser argues that

Volume 13, Number 1: February 2012
ISSN: 1535-0975

> Women of all classes and ethnicities were excluded from official political participation precisely on the basis of ascribed gender status, while plebeian men were formally excluded by property qualifications. Moreover, in many cases, women and men of racialized ethnicities of all classes were excluded on racial grounds. (80)

Rita Felski (1989), interested in feminist counterpublics, illustrates the process through which counterpublics are created. She opines that "cultural dislocation provides the impetus for the development of a self-consciously oppositional identity" (167) that builds a counterpublic whose "arguments are directed outward" toward other publics in the public sphere (167). Clearly the multiple genres, discursive practices, and oppositional values of the many communities and counterpublics make the public sphere a site of complex interaction. Based upon my own experience, instructors of public writing courses should present it as such immediately, and instructors should adopt heuristics and questions to force students to consider interaction and reception by multiple publics. My own heuristical questions shall appear in the following section.

Public Mode, Not Discourse Community, as Heuristic

Robert Asen and Daniel C. Brouwer also argue for a highly complex and plural public sphere in *Public Modalities: Rhetoric, Culture, Media and the Shape of Public Life* (2010). The pair suggests that the public sphere is best interpreted through a concept of modality because all lenses for theories of the public sphere(s) are metaphorical/modal in nature. Modality is a way proceeding (17), and each modality renders visible particular counterpublic interactions. I will now summarize several of Asen and Brouwer's modes that I found useful in my own public writing course. I will forego those that I did not include. Also, I will not be

Volume 13, Number 1: February 2012
ISSN: 1535-0975

fully summarizing Brouwer and Asen's work. Interested readers should read the introduction to *Public Modalities* for a full picture of their theory. I will discuss their modal theory through a framework of practical pedagogical application in a public writing course.

Asen and Brouwer begin with the default Habermasian metaphor of "sphere," which, like Wells, they argue suggests a social space for discourse, but not a particular locale (4). Moreover, the metaphor of "sphere" suggests that "[s]patial language also may present a synchronic picture of publicity. Spatial representations convey public engagement as a process that develops over time" (4-5), and recognizing *sphere* as a metaphor is to recognize the limits of rhetorical analysis of public debate. The pair suggest that "sphere calls attention to shared features among diverse discourse practices" (5). Together, these critiques suggest that conceptualizing the public as a *sphere* potentially eliminates historical texturing and historical development. Theoretically, the problem is similar to critiques of the concept of discourse community, wherein interaction and opposition are veiled. In terms of developing a reading strategy for students of a public writing course, students require a heuristic (or metaphor/modality) other than *sphere*, and discussing the metaphorical aspect of sphere was an odd, challenging, but fruitful, conversation with my students as we wrestled with the rhetorical and metaphorical dimensions of controlling metaphors. I'd suggest students need to be made aware of the metaphorical nature of many of our societal models so as to denaturalize their function and operative principles. In a public writing course, having students question dominant metaphors is one method of critiquing ways of knowing or individual, field dependent debate.

I find that the concept of "discourse community" is similar to a lens that Brouwer and Asen term, simply, "culture." Asen and Brouwer's "culture" lens includes the initial texts of my own course—popular culture texts that I wanted students to read as ideological—texts

and publics from “music, sport, domestic life and leisure or entertainment venues […]” (14). These are texts and genres that are instances of “affective communication” such as “modes of melodrama, sentimentality, and humor, for example” (14). As mentioned, students struggled to read the ideological or interactional aspects of the communities and publics these texts represented. Thus, the following three heuristical questions aided our critique of all texts as public texts.

Counterpublic Inquiry #1: The Gray Area of Private and Public

Affective communication is a reminder that easy delineations of public and private are not black and white. As Craig Warner (2002) asserts, “the impression seems to be that public and private are abstract categories for thinking about law, politics, and economics. And so they are. But their power, as feminism and queer theory have had to insist, goes much deeper” (23). Sex in primetime, homophobia on reality television, same-sex marriage debates, debates over the limits of faith in politics: These and similar sensitive issues explore the line between what behavior or ideas should be constrained to the home versus what should appear in public. Concepts such as illegality versus immoral but legal fall in line with the public/private binary as well.

Both the behavior and public discussion of the issue are open to an analysis through publics’ differing ideas of private and public. However, Warner further asserts that “But in the modern period, […] privacy has taken on a distinctive value of its own, in several different registers: as freedom, individuality, inwardness, authenticity, and so on” (28). Thus, instructors may wish to engage students in a discussion of the rhetorical function of “privacy” (or “public-ness”). The concepts of freedom, individuality, and other qualities highly valued by American society are in part defined by privacy. Exploring how privacy is defined and

Volume 13, Number 1: February 2012
ISSN: 1535-0975

used helps students contextualize the often decontextualized ideas mentioned by Warner above.

In general, the process wherein the private becomes public suggests that issues considered private to the public may, indeed, be the very issues that a community wishes to make public for reasons of debate, recognition, and equality. I have found that a heuristic based upon private versus public automatically forces students to acknowledge multiple communities and publics responding to an issue. One group's publicity is another's privacy, immorality, or illegality. Having students articulate these differences is an excellent start on pluralizing the public sphere.

Counterpublic Inquiry #2: Tracing Circulation to Discover Remediation and Historical Change

Introducing the concept of circulation aided my students' abilities to identify gains, losses, or changes in debates over time or through multimedia reposts, stories off the cyber-wire, or public dialogue. Circulation lends itself in particular to technology and multimedia and is important "especially now, in the twenty-first century, when the texts of public circulation are very often visual or at any rate no longer mediated by the codex format" (Warner 16).

For instance, my previous explanation of my tracing of Don Imus' offensive remarks, subsequent apology, and reaction to the apology allowed students to trace historical change over the brief period of time the story circulated heavily in both online and traditional media. Students can see public dialogue in action as participants from different publics react and respond to both the offense and the apology, focusing their own response on particular rhetorical moves Imus made in his offense and apology. Students can also see how media or

Volume 13, Number 1: February 2012
ISSN: 1535-0975

publics with similar reactions share values and circulate them through similar responses. Finally, students can see how one public's message may, for instance, come across as more coherent or less coherent depending upon the form of media distribution. Highly visual media allow for more emotion to be displayed compare to print media, even if the message is similar. Instructors can often find the manuscript of a show and have students analyze the script linguistically before having students view and analyze a visual or video medium.

Circulation also offers the opportunity to discuss how a public's attention is gained and formed. According to Warner, attention is based upon textual issues, which means that cultural and community ideology is downplayed in his definition. Warner argues that surveys and data seek to define publics empirically, but such methods do not provide expression or operative logics. He states that "any empirical extension of the public will seem arbitrarily limited because the addressee of public discourse is always yet to be realized" (73). Thus, publics for Warner are text-based. They are "imaginary" (73) because a text "unites strangers through participation" (75). This approach to counterpublic theory—a text-based approach downplaying a more essentialist ideological approach--allows students to challenge the idea of an aggregate or unchanging discourse community. Moreover, circulation allows for students to analyze the effects of remediation and historical change as a public dialogue circulates through a variety of media that differ in both technological and ideological context.

Counterpublic Inquiry #3: Issues or Ideology?

Gerard Hauser (1999) advocates for an issue-based public sphere, as opposed to a public sphere based in community or counterpublic. Asen and Brouwer (2010) critique Hauser for representing all participants as equal and for suggesting that all groups seek to listen to each other and no discourse seeks to exclude other discourses in the public sphere (6).

Volume 13, Number 1: February 2012
ISSN: 1535-0975

These ideas, too, of a discourse silencing another, or of an issue-based collective of people, opens up class discussion and forces students to acknowledge multiple publics.

Hauser's emphasis on public debate as issue-based allows for a multi-pronged reading strategy. Students must evaluate whether or not texts and artifacts illustrate or suggest a discourse community or counterpublic. For example, in fall of 2011, the Zucotti Park 99% protests may appear to be unified because of the shared physical space of the people amassed. However, the protest and its encampment is/was comprised of a plurality of groups qualifying as discourse communities (anarchists, college students, and labor, for example), but the park also contained groups that are typically read as individuals, not membership groups (the unemployed, for instance). Thus, reading and writing on current political events such as the 99% movement will certainly benefit from Hauser's suggestion that the dialogue of the public sphere is predicated upon issues. This allows students to imagine new alternatives: communities may take up an issue or be divided on an issue; large social movements may be a collective of publics or issues gathered under a large umbrella. In terms of classroom discussion, this means that certain issues can be read as a variety of communities joining together for a cause, yet remaining separate in both their reasoning and goals for solving the public inequality. This forces students to read for dissension where consensus seems probable.

Regarding issue-based public rhetoric (for example, Hauser's) across media, Brouwer and Asen select the metaphor of "network/web" because of the "intersections without a center" inherent in public discourse as well as technologically-mediated public discourse. The pair argue that "blogs host discussions about a range of social, cultural, economic, and political issues, while also linking to other discursive sites, whether blogs, newspaper Web pages, organizational Web pages, and others" (7). In comparison with the monolithic metaphor of sphere, network/web provides a mechanism to follow the temporal development

Volume 13, Number 1: February 2012
ISSN: 1535-0975

of public discourse (7), and discursivity is acknowledged through either discourse community or technological remediation as well.

However, an issue-based reading strategy cannot construct an outline of community. Rather, reading public dialogue through an "issue" lens may suggest either *no communities* or *many communities* exist in a public issue. Instructors using this lens will find it helpful in challenging students' assumptions that all individuals ascribe to their appropriate community standards (African-Americans to African-American politics and ideologies, for example). Moreover, the issue-based rhetoric allows for students to understand a single proposition as complex enough to be the result of a variety of discourse communities' differing logics or political goals. The journey is different for each community, even if the desired result is shared amongst communities. Naturally, a discussion such as this opens the door for discussions of how plural communities or publics convened around a common goal may have conflict with each other during or after attainment of said goal.

Conclusion: Reading Publics to Write as a Member of a Public

The problem of entering a discourse community is as difficult as reading it. But because literature on public writing courses strongly endorses having students enter a community or public to write, I'd like to briefly discuss the challenge of students writing their way into discourse communities.

R.W. Burniske (2008) documents how students have trouble negotiating formal (mainly educational) and informal discourses in synchronous online writing. In pedagogical terms, Burniske suggests that "the greatest challenge for classroom teachers, however, is deciding what to do when students confuse these discursive styles" (42). Students suffering

Volume 13, Number 1: February 2012
ISSN: 1535-0975

from Burniske's noted problems struggle with discourse choices because the spatial arrangement of the popular genre "blog" triggers an automatic spoken-level of writing common in blogs, which is common when one views genre as a social phenomenon (Miller 1984; Freedman 1994). As Ann M. Johns (2002) intones, "genre has become a term that refers to complex oral or written responses by speakers or writers to the demands of a social context" (3).

We must ask how modeling a reading of discourse community could help students better identify and negotiate formal and informal discourses as they leave and enter academic and non-academic discourse communities in public, on-line, or in their own lives. Mark Warschauer (2002) has suggested that when entering discourse communities, students should provide scaffolding for each other, which corresponds to "a peripheral participation model of apprenticeship learning" (47). Past research indicates that "learners in diverse settings learn best by limited but andsteadily increasing participation on the periphery of the communities they seek to enter" (47). Warschauer's suggestion is applicable both theoretically and practically in our classrooms. Requiring students to enter blogging communities provides one type of non-academic writing through technology.

However, this non-academic blogging is very different from asking students to write in the sociorhetorical codes of a public community or issue. This requires preparing documents that meet a community's linguistic membership standards. It also entails knowledge of appropirate public distribution, technological or otherwise. Although the variety of assignment and political issue is variable, I would suggest that having students study a community's discourse and technology, then having students engage the community through an activist forum (pamphleteering, web messaging and promotional materials, public panel organizations, community event organizing, local histories for the purposes of a local

Volume 13, Number 1: February 2012
ISSN: 1535-0975

society, etc.) is one way to allow students to translate their academic practice into public production.

The strengths of these forms of public writing are well-documented by Sid Dobrin and Christian Weisser (2006), who suggest studying discourse communities through an ecological rhetoric to allow a focus on the local circumstances of communities' and issues' space and place. The pair argue that the "primary agenda" must be "the study of the relationships among all environments and the production of written discourse; production, not interpretation, is the cornerstone" (486). Deans, too, suggests that students must enter the public fray. He proposes "*writing for* and *writing with* modes because those kinds of service-learning invite students to use writing itself as a tool to expand their involvement in activity and genre systems beyond college classrooms and academic disciplines" (452).

I agree wholeheartedly that students must write as an incipient member of a community. But reading and interpretation itself is a difficult challenge that must be properly scaffolded before students can write as members of a community. Good reading, properly scaffolded, paves a road for an understanding of the community, eventual community membership, and appropriate writing for that community, whether in the public writing classroom or the culturally-engaged writing classroom in general. Good reading and interpretation also helps students understand the values, genres, and discourse of the community amongst competing voices in the public sphere. For a proper understanding of their own public memberships, the scope of civic participation, and profiling public dialogues, students must analyze communities interacting and competing with each other. Not only must instructors provide specific public discourse heuristics for students, they must provide heuristics that are useful for technology, new media, and cyber-publics as well.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

References

Asen, Robert and Daniel C. Brouwer. "Introduction: Reconfigurations of the Public Sphere." *Counterpublics and the State*. Ed. Robert Asen and Daniel C. Brouwer. Albany: State University of New York Press, 2001. 1-32.

-----. "Introduction: Public Modalities, or the Metaphors We Theorize By." *Public Modalities: Rhetoric, Culture, Media, and the Shape of Public Life*. Ed. Robert Asen and Daniel C. Brouwer. Tuscaloosa: University of Alabama Press, 2010. 1-33.

Berlin, James. "Rhetoric and Ideology in the Writing Class." *College English* 50.5 (Sep. 1988): 477-94.

Bizzell, Patricia. *Academic Discourse and Critical Consciousness*. Pittsburgh: U. of Pittsburgh, 1992.

-----."'Contact Zones' and English Studies." *Cross-talk Comp Theory: A Reader*. Ed.Victor Villanueva. Urbana, IL: NCTE, 1997. 735-42.

Blair, J. Anthony. "The Possibility and Actuality of Visual Argument." In Handa. 344-63.

Bolter, Jay David and Richard Grusin. *Remediation: Understanding New Media*. Cambridge: MIT Press, 1999.

Burnett, Josh, Sally Chandler, and Jackie Lopez. "A Report from the Digital Contact Zone: Collaborative Research and the Hybridizing of Cultural Mindsets." In Devoss and McKee. 319-36.

Burniske, R.W. *Literacy in the Digital Age*. Thousand Oaks, CA: Corwin Press, 2008.

Coe, Richard. "The New Rhetoric of Genre: Writing Political Briefs." *Genre in the Classroom: Multiple Perspectives*." Ed. Ann Johns. Mahwah, NJ: Lawrence Erlbaum, 2002. 197-210.

Curran, James. "Rethinking the Media as a Public Sphere." *Communication and Citizenship: Journalism and the Public Sphere*. Ed. Peter Dahlgren and Colin Sparks. London: Routledge, 1997. 29-57.

Deans, Thomas. "Shifting Locations, Genres, and Motives: An Activity Theory Analysis of Service-Learning." In Deans, Roswell, and Wurr. 452-64.

Deans, Thomas, Barbara Roswell, and Adrian J. Wurr. (Ed.) *Writing and Community Engagement: A Critical Sourcebook*. Ed. New York: Bedford/St. Martins, 2010.

DeVoss, Danielle Nicole and Heidi A. McKee (Ed.). *Digital Writing Research: Technologies, Methodologies, and Ethical Issues*. Cresskill, NJ: Hampton Press, 2007.

Dobrin, Sidney and Christian Weisser. "Breaking Ground in Ecocomposition: Exploring Relationships Between Discourse and Environment." *Relations, Locations, Positions: Composition Theory for Writing Teachers*. (Ed. Peter Vandenberg, Sue Hum, and Jennifer Clary-Lemon. Urbana, IL: NCTE, 2006: 258-90.

Felski, Rita. *Beyond Feminist Aesthetics: Feminist Literature and Social Change*. Cambridge: Harvard UP, 1989.

Fraser, Nancy. "Rethinking the Public Sphere: A Contribution to the Critique of an Actually Existing Society." *Between Borders: Pedagogy and the Politics of Cultural Studies*. Ed. Henry A. Giroux and Peter McLaren. New York: Routledge, 1994. 74-98.

Freedman, Aviva and Peter Medway. "Introduction: New Views of Genre the Their Implications for Education." *Learning and Teaching Genre*. Ed. Aviva Freedman and Peter Medway. Portsmouth, NH: Boynton/Cook, 1994. 1-22.

Handa, Carolyn (Ed.). *Visual Rhetoric in a Digital World: A Critical Sourcebook*. New York: Bedford/St. Martin's, 2004. 13-37.

Harris, Joseph. "The Ideas of Community in the Study of Writing." *College Composition and Communication* 40.1 (Feb. 1989): 11-22.

-----. *A Teaching Subject: Composition Since 1966.* Upper Saddle River, NJ. Prentice Hall, 1997.

Hauser, Gerard. *Vernacular Voices: The Rhetoric of Publics and Public Spheres*. Columbia: University of South Carolina Press, 1999.

Herzberg, Bruce. "The Politics of Discourse Communities." *Conference of College Composition and Communication*. New Orleans, March 1986.

Hilligloss, Susan and Sean Williams. "Composition Meets Visual Communication: New Research Questions." In DeVoss and McKee. 229-48.

John, Ann M. "Introduction." *Genre in the Classroom: Multiple Perspectives*. Ed. Ann M. Johns. Mahweh, NJ: Lawrence Erlbaum, 2002. 3-13.

Koester, Almut. *Workplace Discourse*. London: Continuum, 2010.

Kress, Gunther. *Literacy in the New Media Age*. London: Routledge, 2003.

Lindemann, Erika. *A Rhetoric for Writing Teachers. 4th ed.* New York: Oxford UP, 2001.

Martin-Martin, Pedro. *The Rhetoric of the Abstract in English and Spanish Scientific Discourse: A Cross-Cultural Genre-Analytic Approach*. Bern: Peter Lang, 2005.

Miller, Carolyn. "Genre as Social Action." *Quarterly Journal of Speech* 70 (May 1984): 151-67.

McComiskey, Bruce. *Teaching Composition as a Social Process*. Logan: Utah State UP, 2000.

Nystrand, Martin. *What Writers Know: The Language, Process, and Structure of Written Discourse*. New York: Academic Press, 1982.

Paltridge, Brian. *Discourse Analysis: An Introduction*. London: Continuum, 2006.

Peckham, Irvin. *Going North, Thinking West: The Intersection of Social Class, Critical Thinking, and Politicized Writing Instruction*. Logan: Utah State UP, 2010.

Porter, James. *Audience and Rhetoric: An Archaeological Composition of the Discourse Community*. Upper Saddle River, NJ: Prentice-Hall, 1992.

Pratt, Mary Louise. "Arts of the Contact Zone." *Profession 91*. New York: MLA, 1991. 33-40.

Romberger, Julia. "An Ecofeminist Methodology: Studying the Ecological Dimensions of the Digital Environment." In Devoss and McKee. 249-68.

Russell, David. "Rethinking Genre in School and Society: An Activity Theory Analysis." *Written Communication* 14.4 504-54.

Schroeder, Christopher. "Rereading the Literacy Crises of American Colleges and Universities" *Professing Rhetoric: Selected Papers From the 2000 Rhetoric Society of*

Volume 13, Number 1: February 2012
ISSN: 1535-0975

America Conference. Ed. Frank J. Antczak, Cinda Coggins, and Geoffrey D. Klinger. Malway, NJ: Lawrence Erlbaum, 2002. 187-193.

Stroupe, Jacob. "Visualizing English: Recognizing the Hybrid Literacy of Visual and Verbal Authorship on the Web." In Handa. 13-37.

Swales, John. *English in Academic and Research Settings*. Cambridge: Cambridge UP, 1990.

Trimbur, John. "Consensus and Difference in Collaborative Writing." In Villaneuva.

Villenueva, Victor Jr. Ed. *Cross-talk Comp Theory*. 2nd ed. Urbana, IL: NCTE, 1997.

Warner, Craig. *Publics and Counterpublics*. New York: Zone Books, 2002.

Warnick, Barbara. *Rhetoric Online: Persuasion and Politics on the World Wide Web*. New York: Peter Lang, 2007.

Warschauer, Mark. *Electronic Literacies: Language, Culture, and Power in Online Education*. Mahwah, NJ: Lawrence Erlbaum, 1999.

Wells, Susan. "Rogue Cops and Health Care: What Do We Want from Public Writing?" In Deans, Roswell, and Wurr. 151-66.

Journal of Literacy and Technology
Volume 13, Number 1: February 2012
ISSN: 1535-0975

Multiple Source Quality Indicators for Effective Early Literacy Teaching with Technology

Kristine Lynn Still, Ph.D
Cleveland State University
K.L.Still@csuohio.edu

Jaclyn P. Gordon, Ph.D
The University of Akron
Jpg3838@aol.com

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Abstract

This paper shares research findings from a four phase study around the topic of Effective Early Literacy Teaching with Technology. The four phases included an extensive and rigorous review of the research literature on early childhood literacy and technology integration, a Q-Method study investigating teacher belief profiles around integrating technology with literacy instruction, a content analysis which highlighted the presence of technology related sessions presented at a major literacy conference, and a survey of teachers around the topic of technology integration with literacy instruction focusing on how teachers acquire the information needed for successful integration of the two.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

This paper will share the results and implications of a four phase research study which investigated the integration of literacy instruction and technology with emphasis placed on the early childhood classroom. There were two overarching research questions which guided this multi-phase study. First, the researchers sought to understand where exemplary teachers acquire professional development. Secondly, how do exemplary teachers synthesize the information gained through professional development into a form that is useful for them when integrating technology with literacy instruction?

This research study employed four methodologies which applied multiple sources of data as indicators. These methodologies included:

1. A rigorous review of the research literature,
2. A Q-method study which defined teacher belief profiles,
3. A content analysis which highlighted the presence of technology related sessions presented at a major literacy conference, and
4. A survey of teachers around the topic of how they acquire the information necessary to implement their innovative teaching strategies for integrating literacy instruction with meaningful technologies.

The rationale for engaging in these multiple methodologies underscores the unique contribution that each makes to this line of literacy research. Specifically, in this study the researchers reflect that each methodology has afforded them new insights, prompted additional inquiry, confirmed or altered their previous thinking and wonderings while moving the research forward. As Duke and Mallette (2004) remind us, ". . . many well respected literacy scholars are on record espousing the value of many different types of research" (p. 348). At the close of this multiyear four phase study, the researchers pause to reflect on their investigative journey. At the beginning, we were naïve in thinking that the first phase would elicit some final or defining information when in fact just the opposite occurred and caused

Volume 13, Number 1: February 2012
ISSN: 1535-0975

us to further question this topic. As good researchers, we knew that beginning with the research literature was the key to our successful inquiry. This questioning continued during each subsequent phase. We started by viewing where exemplary teachers could find the information, and we ended with the voice of the exemplary teacher telling us where they do find the necessary information. We believe that this journey has led us down a path that along the way has always included and focused on the teacher.

Additionally, Duke and Mallette (2004) offer five "messages" to guide the literacy researcher in their use of different research methodologies to inform a line of inquiry. These messages include:

1. Many different research methods offer valuable contributions to the field,
2. Matching research questions and appropriate methodology is essential,
3. Standards of quality differ across methodologies,
4. Synergy across research methodologies is relevant, robust, and realizable,
5. Active pursuit of synergy across research methodologies is crucial.

Interesting, for the current study, the researchers believe that two of the "messages" suggested by Duke and Mallette (2004) shepherded them in gaining new understandings. Message two urged them to match the research questions to the appropriate methodology and served as a beginning step for each new phase of the broader study; while message four speaks to this particular paper as we have attempted to synergize methodologies and synthesize our findings.

Related Theoretical Perspectives

This multiphase research study is interrelated through constructivist, New Literacies, and Social Constructivist theoretical perspectives. Leu et al. (2004) conceptualized the New Literacies as deictic. Therefore, it was proposed that forms and functions of literacy change

Volume 13, Number 1: February 2012
ISSN: 1535-0975

rapidly and transform with their temporal context. Employing new technologies individuals imagined new ways of using them and altered the nature of literacy" (Leu, Karchmer, & Leu, 1999). Consequently, Labbo and Reinking (1999) constructed a framework for integrating technology with literacy instruction. This framework encompassed digital technologies being employed and available for literacy instruction while enhancing conventional literacy. This framework also included the transformative effects of the New Literacies including their ability to prepare students for the "literacy of the future" and to "empower students" (p. 481).

Social Learning Theory (Vygotsky, 1978) expresses the prominent belief that children learn through social interaction using tools the culture provides to support thinking. Development depends upon culturally bound sign systems scaffolded by competent individuals to allow learners to strengthen constructions of meaning and gain increasing independence as learners. Collaborative relationships have been found to be instrumental in facilitating professional growth in teachers. Gee (2003) suggested that "discourse" allows for the building of relationships of this sort and he purported,

> Discourses often constitute a "community of practice," that is, they are ongoingly engaged in and bonded together through a common set of endeavors within which they may have distinctive, but overlapping functions. . . . Such communities of practice reproduce themselves through "apprenticing" newcomers, in thought, word, and deed, to their characteristic social languages, cultural models, and social practices. (p. 37)

Taken together, these two insights anchor a belief that professional development should shift away from solely providing content for improved teaching and focus on building meaningful relationships amongst teachers.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Related Research Literature on Effective Professional Development

To better serve the needs of teachers in their quest to integrate technology, professional development should be thoughtfully constructed. Effective models must move beyond traditional models based on transmission of information from someone in authority to engage and empower teachers to have stronger voices in directing their own learning. Zepeda (2002) stated "a more empowering view . . . casts teachers as active participants, constructing knowledge . . . applicable to classroom practice and that engages them in more collaborative processes" (p. 84).

Collaborative relationships have been found to be instrumental in facilitating professional growth in teachers. Professional development should shift away from solely providing content for improved teaching and focus more on building meaningful relationships amongst teachers. Indeed research has shown that less than 10% of teachers implement new ideas learned in traditional workshop settings (Joyce & Showers, 1988).

Professional development should be implemented in ways that serve teachers and their needs for integrating technology in meaningful ways. Ultimately, professional development should establish environments conducive for nurturing collegial relationships. Sanders and Schwab (2001) identified "that education is a deeply human process, and that those who teach both need and deserve psychological and social support to keep their energies focused upon what is essential" (p. 277).

The most effective models of teacher professional development must move beyond the traditional model based on the transmission of information from someone in authority. Research suggests that professional development should engage and empower teachers to have a stronger voice in directing their own learning (Educational Research Service, 1998;

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Lyon & Pinnell, 2001; Rob, 2000). Adults learn best in situations that reflect a constructivist view of learning. According to Zepeda (as cited in Sandholtz, 2002),

> Learning is not only a matter of transferring ideas from one who is knowledgeable to one who is not. Instead, learning is perceived as a personal, reflective, and transformative process where ideas, experiences, and points of view are integrated and knowledge is created. (p. 816)

Zepeda further stated that, "When a constructivist perspective is applied to teacher learning, a key focus becomes how teachers learn to make critically reflective judgments in the midst of action and how they subsequently change their actions in response to new insights" (p. 816).

The ultimate model of professional development will result in the formulation of learning communities among staff members involved in the experience. Kinnucan-Welsh and Jenlink (as cited in Sandholtz, 2002) concluded that "learning communities become important ways of supporting individual construction of meaning and knowledge" (p. 816). Shamburg (2004) also found that,

> An approach to professional development that emphasizes the social dimensions of learning from classroom teachers . . . would facilitate learning channels among professional developers and teachers, with an emphasis on formalizing opportunities for teachers to share and reflect with each other. (p. 242)

Phase 1 - Review of Relevant Research Literature

The researchers in the current study understand the necessity of using the work of other researchers as a springboard for their own. Mindful of this importance, the current study purposed the literature review to accomplish the following:

Volume 13, Number 1: February 2012
ISSN: 1535-0975

1. Delimiting the scope of the research by specifying descriptors used in the actual search process,
2. Opening new lines of inquiry as suggested by the analysis and interpretation of findings both from the researchers and their professional colleagues,
3. Avoiding fruitless approaches as this inquiry process allowed the researchers to update and provide new information for a confirmed methodology,
4. Gaining methodological insights as the researchers replicated some of the methodologies that we encountered, and
5. Identifying recommendations for further research as this first phase (a literature review) served as the impetus for the subsequent phases (Gall, Gall, & Borg, 2003).

The background of this phase of the research was grounded in a review of the major recent literature focusing on the topic of early childhood literacy and the integration of technology. Historically, a review conducted by Kamil and Lane (1998) surveyed the four major literacy journals which included *Reading Research Quarterly, Written Communication, The Journal of Literacy Research,* and *Research in the Teaching of English*. Of the 437 articles published during the years 1990-1995, all of which focused on school-aged children, Kamil and Lane (1998) found only 12 articles connecting technology and literacy. Based on their previous work, analyzing 350 articles from 1986-1996, Kamil, Intrater, and Kim (2000) suggested six emergent themes which included; Computers and Composition, Hypermedia, Hypertext, and Literacy, Multimedia Effects on Literacy, Special Populations, Motivation, and Computers and Collaboration. Finally, Lankshear and Knobel (2003) continued this study by both expanding the research literature base and focusing solely on early childhood literacy.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Mode of inquiry

The purpose of this phase of inquiry was to investigate how the growing trend of integrating technology into the early childhood literacy curriculum (K-3) had been reflected in the classroom-based research literature during the time frame between January, 2000 through March, 2006. Moreover, this review of the literature extended the professional discussion by exploring the patterns which emerged from this analysis and offered a consideration of the current factors which are continually impacting the integration of technology into the early childhood literacy curriculum.

The researchers engaged in an extensive multi-stage analysis of the research literature on early literacy instruction and technology integration. During stage one, the authors conducted a review of the research literature on early childhood literacy and technology. In stage two, they sectioned out the classroom-based research studies and analyzed those for emergent themes. Finally, stage three offered an analysis of the emergent trends from the study of classroom-based research articles. There were six subareas of analysis through these three phases as is discussed below.

The first area of analysis involved revisiting the six categories presented by Kamil et al. (2000). The analysis required the researchers to categorize the existing articles into those six categories as appropriate. These six categories included

1. computers and composition,
2. hypermedia, hypertext, and literacy,
3. multimedia effects on literacy,
4. special populations,
5. motivation, and
6. computers and collaboration.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

The second area of analysis focused on categorizing the collection of articles into the four major literacy components which included reading, writing, speaking, and listening. The analysis process involved determining the dominant aspect of literacy represented in the studies. However, there were instances where two aspects of literacy worked in cooperation. The third area of analysis focused on the determination of teacher-based versus student-based studies. This dissection was determined by who was the primary focus of the research, the students or the teacher. This analysis gave insights into the current thinking on professional development and student-centered learning. The fourth area of analysis investigated the author's purpose for the study and was analyzed through five categories which included evaluation for standards, special populations, teaching old skills better, teaching a new skill, and a final category that allowed for inclusion of "other" purposes. The fifth and sixth areas were descriptive in nature and subsequently aggregated the data by year of publication and research methodology to include both quantitative and nonquantitative. The researchers appointed the term "nonquantitative" to include qualitative, action research, and mixed methods studies.

Data sources

Specifically, the authors revisited the seminal review of the literature conducted by Kamil and Lane (1998). The researchers of the current paper expanded upon the four main review journals presented by Kamil and Lane (1998) to include other relevant research journals of literacy, early childhood, and technology. The researchers of this paper also utilized the key words of another literature review initially conducted by Lankshear and Knobel (2003). Taken together, this search process generated over 3,000 articles for potential review. From the 3,000 articles, 256 articles were then selected based upon title and abstract

Volume 13, Number 1: February 2012
ISSN: 1535-0975

alone (see Table 1). Subsequently, these articles were further reduced according to the following criteria which included:

1. early childhood literacy,
2. technology,
3. classroom-based studies, and
4. publication during the time frame January 2000 through March 2006 thus narrowing the collection to 47 articles that were included in the final review.

Results and conclusions

The following section presents the data tables along with qualifying statements for each. In this table (Table 1), attention was focused on the dates of publication for all of the articles in general and it is important to note that the most productive year for publications was 2003.

Although in total there were 256 articles that fulfilled the criteria of early childhood education, literacy, and technology, the following tables present data reflecting the final criteria of research-based studies (classroom-based studies) as originally focused on in the research agendas of the previous reviews of this literature (Kamil & Lane, 1998; Kamil et al., 2000; Lankshear & Knobel, 2003).

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Table 1: Total Number of Literature Articles Differentiated by Year, Database, and Journal

N= 256

	2000	2001	2002	2003	2004	2005	2006	Total
Databases								
Ed. Abstracts	16	18	16	27	17	19	2	115
ERIC	2	0	2	0	0	0	0	4
Prof Dev. Coll.	1	1	0	2	15	16	3	40
Diss. Abstracts	5	7	11	11	1	3	0	38
Journals								
Early Childhood	1	1	0	4	0	0	0	6
Research-based Reading articles**	13	2	1	2	1	2	1	22
Practice Based Reading Articles***	1	4	2	4	5	2	1	19
Technology ****	0	1	1	5	4	1	0	12

* Young Children, Journal of Early Childhood Literacy and Technology

** Reading Psychology, Journal of Literacy Research, Reading Research Quarterly, Reading and Writing Quarterly, Journal of Research in Reading

*** Reading and Writing, Language and Education, Reading Teacher, Language Arts, Reading Research and Instruction

**** Journal of Educational Multimedia and Hypermedia, Information Technology in Childhood Education Annual, British Journal of Educational Technology, Proceedings of Society for Information Technology and Teacher Education International Conference

Table 2: Totals Differentiated by Six Themes and Research Methodology

Methodology	Quantitative	Non Quantitative**	Total
Computer and composition	2	11	13
Hypermedia, hypertext and literacy	17	10	27
Multimedia effects on literacy	19	13	32
Special population	5	3	8
Motivation	5	7	12
Computers and Collaboration	1	7	8

**Themes represented in this table are those suggested by Kamil et. al (2000).*
***On some occasions there were journals that fell into more than one theme.*
******** *The term "Non Quantitative" referred to the subset which included qualitative, mixed methods, and action research projects.*

The six themes that formed the basis for the research were originally documented by Kamil (2000) and subsequently provided groundwork for Lanshear and Knobel (2003). The authors of the present study return to these six themes to align their work with the historic precedent. In so doing the authors employed the conceptions of the original six definitions which are described as follows:

Computers and composition suggests that there is evidence that students produce superior quality writing employing a word processor (Bangert-Downs, 1993). Additionally, students also produce longer texts (Kamil et al., 2000). *Hypermedia, hypertext and literacy* included areas in which readers were more confident creating stories, exploring material in hypertext in greater detail and entering into digital learning environments. *Multimedia effects on literacy* denoted the wide array of literacy-related technology skills including integrating texts with images and animating, while also adding sound to create meaning in an effort to access multiple intelligences. *Motivation* was seen to increase with the use of computers. *Special populations* included the growing research which outlined the possibilities of assistive technologies, including learning differences, physical disabilities, and second language learners. *Computers and collaboration* strived to "foster higher levels of interaction

Volume 13, Number 1: February 2012
ISSN: 1535-0975

and collaboration" (Kamil et al., 2000). It is interesting to mention that special populations and computers and collaboration were the least represented in the research literature. This finding speaks to the discussion of the four phases of inquiry offered in the overall conclusions and implications section found later in this paper.

Table 3: Subjects of the Research Study

Subject	Number	Percent
Student	37	79%
Student/teacher	7	15%
Teacher	3	6%

Table 3 presented the subjects of the research studies as concentration on students, teachers, or a combination of both. The majority of studies (79%) were based upon student subjects. Studies based solely on teachers as subjects accounted for only 6% of the total collection.

Our results indicate that almost half (48%) of the research articles focused on the technology as a vehicle for teaching foundational skills better. Interestingly, the research studies centering on special populations and their uses of assistive technologies totaled approximately 17%. It is ironic that technology, viewed as innovative practice for teaching, was only represented by 19% of the research studies for teaching new skills.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Table 4: Purpose of the Technology

Purpose	Qualitative	Non Qualitative	Total	Percent
(1) Teaching old skills better	18	10	28	48%
(2) Teaching new skill	2	9	11	19%
(3) Special populations	7	3	10	17%
(4) Other *	1	5	6	10%
(5) Evaluation for standards	-	3	3	5%

(1) Teaching foundational literacy skills in a digitized format (ie..converting worksheets to digitized images, scanning book pages, essentially non-interactive literacy activities.
(2) The new literacies go beyond foundational literacies to include the new reading, writing, viewing, and communication skills required by the Internet and other ICT's (Information and Communication Technologies). For example, these new skills may require students to effectively use search engines, critically evaluate information on the Internet, send effective emails, effectively use word processors including the use of graphics.
(3) These would include special learning styles, mild to moderate disabilities as well as cultural diversity including English Language Learners (ELLs).
(4) Other included studies on topics such as assessment, connecting through technology, project learning, evaluations of Integrated Learning Systems (ILS) and tutoring.
(5) Technology-based assessments directly used for state and national proficiency testing.

Phase #2 – Defining Teacher Beliefs Through Q Methodology

Q-methodology provides the vehicle for uncovering and identifying the range of participant opinions regarding a specific topic of investigation. It is important to note that numerous studies have used Q-methodology as a way to reveal belief patterns and teacher attitudes (Elhoweris & Alsheikh, 2006; Pianta et al., 1995; Rimm-Kaufman et al., 2006). Stephensen (1953) and Valenta and Wigger (1997) verify that the goal of Q-methodology is to uncover different patterns of thought. As noted by Brown (1996), the instrumental basis of Q-methodology is the Q-sort technique, which conventionally involves the rank-ordering of a set of statements from agree to disagree. Usually the statements are taken from interviews and are grounded in concrete existence.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

In an effort to provide a more solid foundation when designing professional development, this phase of the inquiry supported the use of Q-methodology as an appropriate tool for defining the shared belief profiles of potential participants. The research suggests that shared beliefs are an essential component of effective professional development. With this in mind, the overarching research question that guided this portion of the study investigated if Q-methodology was a viable research tool when seeking to define belief profiles in support of planning meaningful professional development.

The researchers identified many major areas of significance evolving from the analysis of the Q-sort data. Without a doubt, seminars abound that understand the nature of technological tools; however, what is lacking is an authentic understanding of the participants who will ultimately use these tools. Specifically, the researchers question the interests, skills, and beliefs of potential participants and even ponder if indeed there is a profile for such participants. Although the researchers share a particular passion for this topic and find the results of interest, they view the significance of the study through a broader lens focused more globally upon the potential of understanding belief profiles to advance relationships within interactions and exchanges of meaningful of professional development.

The overarching research question addressed through this study focused on belief profiles of educators and their integration of technology into the literacy curriculum whereas the four specific research questions that provided direction for this study included the following:

1. What are the belief profiles of undergraduate and graduate students in literacy with regard to integrating technology with literacy instruction?
2. What are the potential belief profiles of undergraduate and graduate students in technology with regard to integrating technology with literacy instruction?
3. What are the commonalities and differences of these belief profile sets, if any?

Volume 13, Number 1: February 2012
ISSN: 1535-0975

4. What are the potential belief profiles of expert groups with regard to integrating technology with literacy instruction?

Mode of inquiry

This study explored the beliefs of undergraduate and graduate students enrolled in courses from two different disciplines (technology and literacy) at two urban universities as well as classroom teachers who were nationally recognized for their expertise of integrating technology in the literacy curriculum. Ultimately, this study sought to investigate if there was a potential profile associated with teachers who are committed to integrating technology in meaningful ways.

The potential participant groups for this study were purposefully selected according to Q-Methodology guidelines. Brown (1991) suggested, "The goal in . . . the Q sample . . . is *representativeness.* . . . Since the application of Q technique resolves responses into functional types, the number of participants is generally quite small." Individual participation in this study was voluntary and anonymous.

The instrumentation for this phase consisted of a concourse of 40 statements taken from dissertation research conducted on the practices and beliefs of exemplary primary grade literacy teachers and their integration of technology (see Figure 1).

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Figure 1

Concourse

1. Integrating technology fosters mechanical operation of the computer for the teacher.
2. Integrating technology fosters mechanical operation of the computer for the student.
3. Integrating technology fosters active learning for the student.
4. Integrating technology fosters visual literacy for the student.
5. Integrating technology fosters collaboration and team building for the teacher.
6. Integrating technology fosters collaboration and team building for the student.
7. Integrating technology fosters higher level questioning by the teacher.
8. Integrating technology fosters higher level questioning by the student.
9. Integrating technology fosters construction of new knowledge for the teacher.
10. Integrating technology fosters construction of new knowledge for the student.
11. Integrating technology fosters increased student motivation.
12. Integrating technology fosters increased teacher motivation.
13. Integrating technology foster individualized instruction.
14. Integrating technology fosters family involvement.
15. Integrating technology fosters the development of oral communication skills for students.
16. Integrating technology fosters the development of global communication for the teacher.
17. Integrating technology fosters the development of global communication for the student.
18. Integrating technology fosters modeling/demonstration on the part of the teacher.
19. Integrating technology fosters modeling/demonstration on the part of the student.
20. Integrating technology fosters research on the part of the teacher.
21. Integrating technology fosters research on the part of the student.
22. Integrating technology fosters monitoring on the part of the teacher.
23. Integrating technology fosters content integration.
24. Integrating technology fosters a democratic classroom where the teacher acts as a facilitator.
25. Integrating technology fosters “fun” in the classroom.
26. Integrating technology fosters an expansion of instructional topics in the classroom.
27. Integrating technology fosters the ability for teachers to stay current with new technologies.
28. Integrating technology fosters the ability for students to stay current with new technologies.
29. Integrating technology fosters life-long learning for the teacher.
30. Integrating technology fosters life-long learning for students.
31. Integrating technology fosters creativity for teachers.
32. Integrating technology fosters creativity for students.
33. Integrating technology fosters authentic learning experiences for the student.
34. Integrating technology fosters instructional support by the teacher.
35. Integrating technology fosters instructional support for the teacher.
36. Integrating technology enhances existing classroom activities.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

37. Integrating technology fosters the development of new instructional approaches for the teacher.
38. Integrating technology fosters the discovery of new uses for technology tools for the teacher.
39. Integrating technology fosters the discovery of new uses for technology tools for the student.
40. Integrating technology fosters the realization that meaningful professional development is an ongoing process for teachers.

The Q-sort activity asked each participant to sort 40 individual cards representing the concourse of statements onto an enlarged Q-grid data sheet (see Figure 2). Each participant was asked to force rank the statements from -5 to +5 with the negative number being of least importance to them and the positive number having the greatest importance to them. After ranking the statements, participants were instructed to record the number of the statement with their choice of its placement onto a smaller version of the Q-grid data sheet (see Figure 2).

Q-Grid Data Sheet

After you have made your placements on the large grid, please record the numbers on this data sheet. Number should not be placed in the grey areas.

-5	**-4**	**-3**	**-2**	**-1**	**0**	**+1**	**+2**	**+3**	**+4**	+5

Thank you for your participation.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Figure 2. Q-grid data sheet.

PQ Method 2.11 software was the statistical tool used to enter the Q-sort data in an electronic manner. The PQ Method 2.11 computed correlations among and between sorts as well as allowed the researchers to rotate the factors in a variety of ways. Factors in Q-Method can be defined as categories that emerged and reflected the subjectivity of the participants' responses to these Q-sorting activities.

Data sources

The data sources for this phase included the concourse and Q-grid data sheet *(*see Figures 1 and 2*).* The following tables represent and indicate the top three favorable choices as well as the bottom choices selected by participants during the Q-sorting activity.

Table 5: Top and Bottom Choices

Factor # 1
Top 3 Choices
Integrating technology fosters authentic learning experiences for the student.
Integrating technology fosters increased teacher motivation.
Integrating technology fosters active learning for the student.
Bottom Choice
Integrating technology fosters mechanical operation of the computer for the teacher.

Factor # 2
Top 3 Choices
Integrating technology fosters fun in the classroom.
Integrating technology fosters increased teacher motivation.
Integrating technology fosters active learning for the student.
Bottom Choice

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Integrating technology fosters the development of global communication for the teacher.

Factor # 3

Top 3 Choices

Integrating technology fosters the ability for students to stay current.
Integrating technology fosters creativity for teachers.
Integrating technology fosters the ability for teachers to stay current.

Bottom Choice

Integrating technology fosters collaboration and team building for students.

Factor # 4

Top 3 Choices

Integrating technology fosters life-long learning for the teacher.
Integrating technology fosters the development of new approaches for the teacher.
Integrating technology fosters the ability for teachers to stay current.

Bottom Choice

Integrating technology fosters a democratic classroom.

Table 6: Compilation of Factor Loadings of All Sub groups

	Factor #1	Factor #2	Factor #3	Factor 4
Expert Group N= 4	3	0	1	0
Graduate Student Techlit N=1	1	0	0	_
Graduate Students Literacy N=9	0	3	4	2
Graduate Students Technology N=13	7	2	3	_
Undergraduate Students Literacy N= 21	1	7	9	2
Undergraduate Students Technology N= 10	0	3	3	2

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Factor Table – noting number of participants who were statistically significant for each group

Results and conclusions

The overall findings of this phase suggested that there were indeed the beginnings of potential profiles for those most likely to integrate technology in meaningful ways in the literacy curriculum. The researchers re-visited the content of the four research questions that guided this investigation as a context for further discussion of the findings.

What are the belief profiles of undergraduate and graduate students in literacy with regard to integrating technology with literacy instruction? Although there is no conclusive definition of individual profiles, the researchers noted that graduate students in literacy loaded onto many of the same factors as those of undergraduate students in literacy. Statement characteristics from these factors suggested a lack of technological sophistication. Moreover, they portray participants who are more concerned with the concrete operations of day-to-day classroom literacy events.

What are the potential belief profiles of undergraduate and graduate students in technology with regard to integrating technology with literacy instruction? In contrast to their colleagues in the literacy field, undergraduate and graduate students in technology did not appear to load onto the same factors. There was a significant loading of graduate students in technology as opposed to undergraduate students in technology onto Factor 1, which exemplified a more accomplished approach to teaching with technology in meaningful ways. Perhaps this is not surprising when one looks closely at undergraduate technology educational courses. Overwhelmingly, the technology skills taught in these types of courses rely heavily on those skills employed by the teacher for clerical purposes and instruction. In

Volume 13, Number 1: February 2012
ISSN: 1535-0975

contrast, the graduate students in technology focused their use of these innovative tools for the improvement and enhancement of student learning in their classrooms.

What are the commonalities and differences of these belief profile sets, if any? There were obvious commonalities and differences between the suggested profiles of the participants during this investigation. Indeed, Factors 1, 2, and 3 appeared during the entire study and a fourth new and completely unique factor emerged during the later part of data collection. What this suggests is that with additional participants, the loadings from each individual were more aligned and converged closely around each factor. In other words, the factors were better able to differentiate the typology of the participants encountered in this study. This supports the researcher's notions that a more distinct profile of each factor emerged after the final analysis of all available data.

What are the potential belief profiles of expert groups with regard to integrating technology with literacy instruction?

The expert group loaded noticeably onto Factor 1 which defined a more abstract thinker who looks toward the future and what their students will need in their life as adults in the twenty-first century and beyond. As we visited Factors 1 through 4, the skills moved from the abstract (Factor 1) to become more concrete and applicable to day-to-day classroom operations (Factor 4).

Phase #3 – Investigating the Presence of Technology Related Sessions at Major Literacy Conferences through Content Analysis

This phase maintained fidelity with the steps specified by Borg et al. (2003) while undertaking a quantitative analysis. The analysis was driven by research questions and a defined objective, a sample was selected for review, and categories were developed for coding.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Specifically, during this phase of the study, the researchers revisited the initial investigation into available sources of professional development for meaningful integration of technology into the early childhood literacy curriculum. It was a natural segue to advance the inquiry to include the exploration of topics at a national literacy conference over a period of years.

A content analysis of the programs of this annual national literacy conference was conducted to advance this research phase. A systematic review of session topics presented between the years 2005 and 2008 was undertaken in concert with the defined purpose of a content analysis being "a research technique for the objective, systematic, and quantitative description of the manifest content of communication" (Berelson, B., 1952 as referenced in Borg et al., 2003, p. 278). Indeed, employing content analysis has been valued as an appropriate methodology to investigate conference proceedings in a variety of fields including medicine, law, and music (Barbaret, 2007; Ortiz, 2005; Scherer, 1985).

As we transition this inquiry to the discipline of "literacy" the purpose was two-fold for conducting a quantitative content analysis of the conference proceedings at a major annual meeting for the field. First, the researchers sought to investigate the importance of the five essential components in popular practice by quantifying their presence at the major literacy event. Secondly, the researchers sought to capture emerging literacy themes by noting their presence in the conference sessions. These objectives were guided by the following research questions:

1. What is the alignment between the five essential literacy components and the session topics presented at a major literacy conference between the years 2005-2008?
2. What literacy themes and/or topics emerged from the sessions presented at a major literacy conference between the years 2005-2008?

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Mode of inquiry

The researchers analyzed the conference proceedings from a national literacy conference between the years 2005-2008. The researchers coded only topics listed as "sessions" which did not include workshop sessions, roundtable sessions, or keynote presentations. The rationale for this was that at this major conference, "sessions" undergo an extensive review process and were therefore considered "peer reviewed" and more representative of the field. Sessions addressing the five essentials were noted for each year. Additionally, a list of popular topics of the sessions presented at the conference emerged for each year. Categories for these topics were collapsed with the following consideration: topics with only one session were considered as "outliers" and topics with two or more session were included in the list for a particular year. After evaluation of all inclusive years, the topic list was further collapsed by reviewing topics appearing in only one year.

All conference sessions were coded according to a template (see Figure 3). To ensure reliability and validity through the coding process, the research cross coded the data to confirm that identical coding procedures were conducted.

Template for the Conference Presentations

Conference:
Year:
Presentation Title:

Date:
Day of conference:

Time of presentation:
Morning Midday Afternoon Late Afternoon

Focus of presentation:

Page Number of Conference Booklet

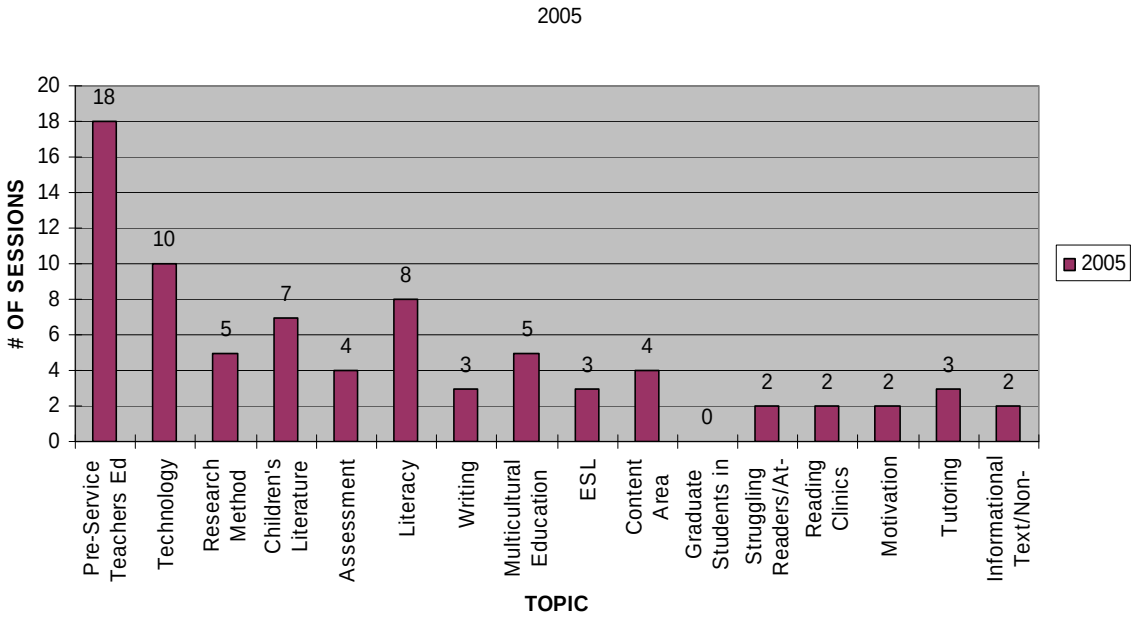
Additional information:

Figure 3. Template for conference presentations.

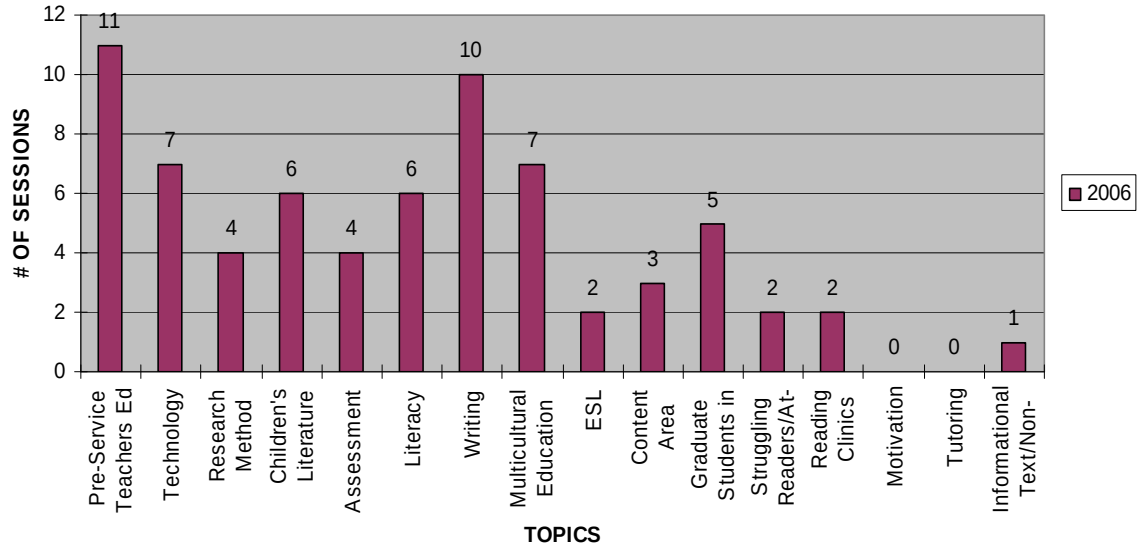
Data sources

The data sources for this phase included the conference program booklets from a major literacy conference for the years 2005-2008.

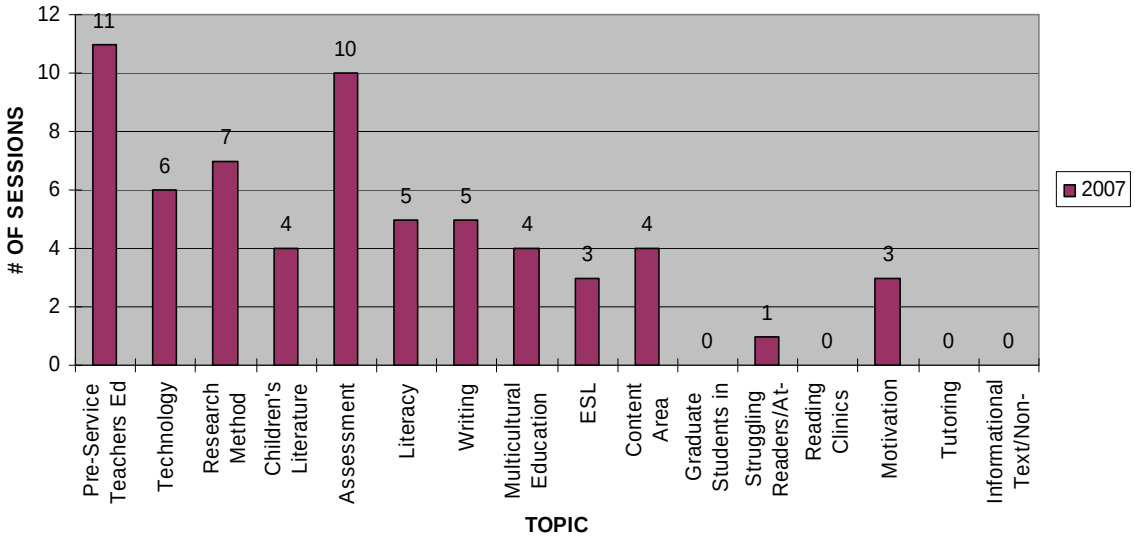
Results and conclusions



2006


12
10
8
6
4
2
0
OF SESSIONS
11
7
4
6
4
6
10
7
2
3
5
2
2
0
0
1
Pre-Service Teachers Ed
Technology
Research Method
Children's Literature
Assessment
Literacy
Writing
Multicultural Education
ESL
Content Area
Graduate Students in
Struggling Readers/At-
Reading Clinics
Motivation
Tutoring
Informational Text/Non-
TOPICS
2006

2007


12
10
8
6
4
2
0
OF SESSIONS
11
6
7
4
10
5
5
4
3
4
0
1
0
3
0
0
Pre-Service Teachers Ed
Technology
Research Method
Children's Literature
Assessment
Literacy
Writing
Multicultural Education
ESL
Content Area
Graduate Students in
Struggling Readers/At-
Reading Clinics
Motivation
Tutoring
Informational Text/Non-
TOPIC
2007

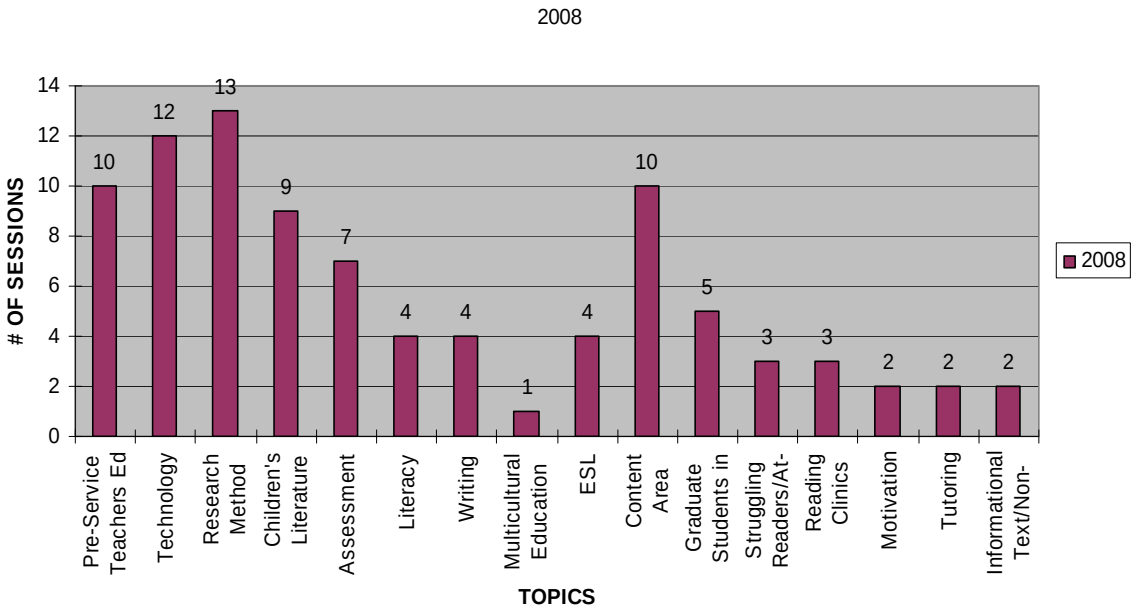
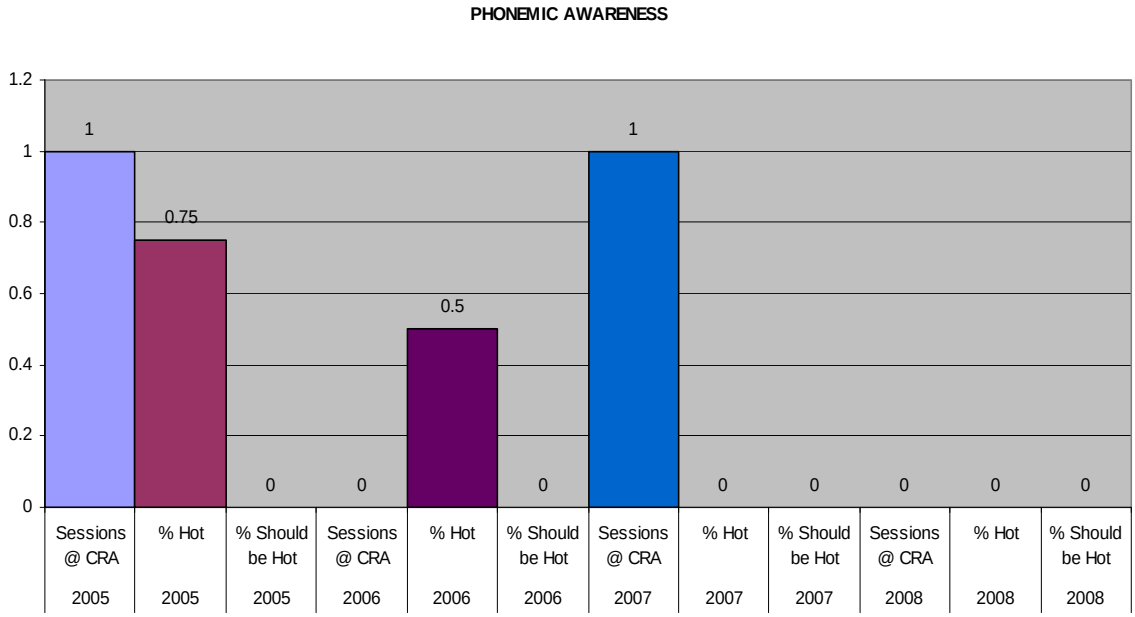
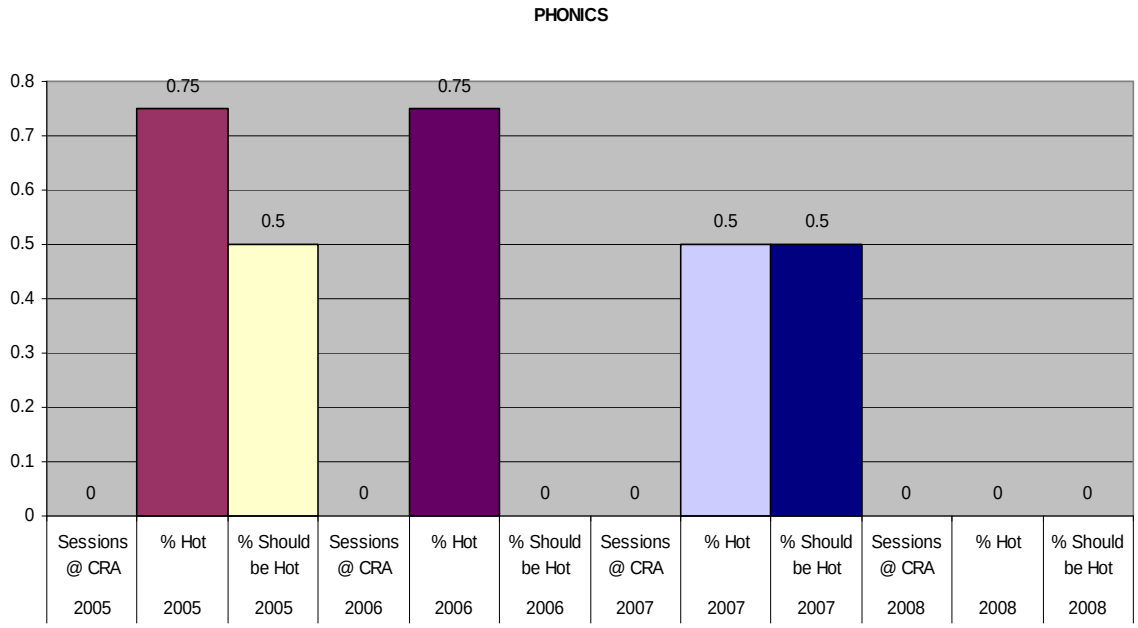
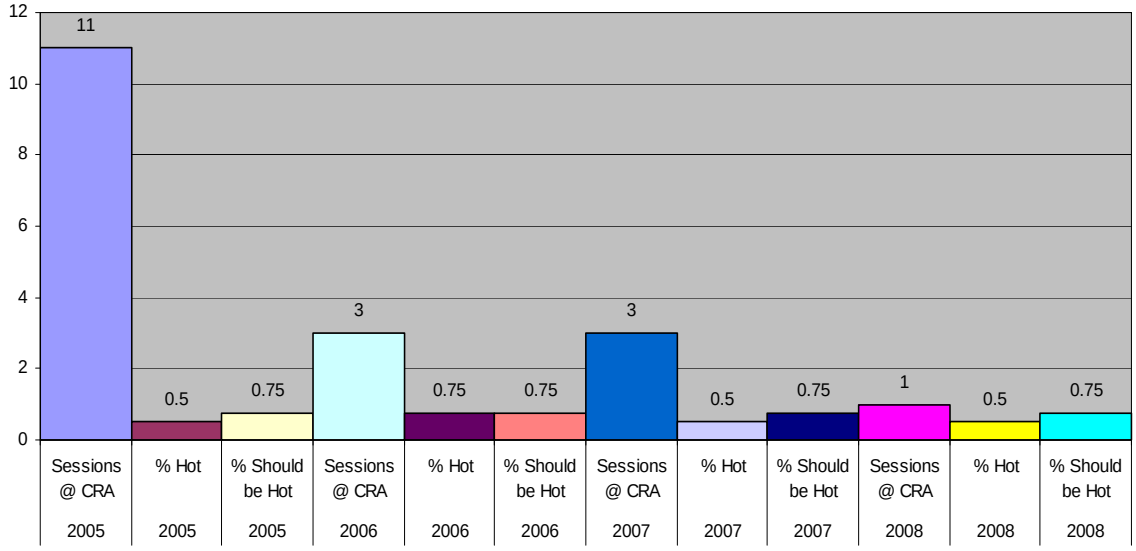


Figure 4. Number of sessions and topics 2005 to 2008.



ISSN: 1535-0975





ISSN: 1535-0975

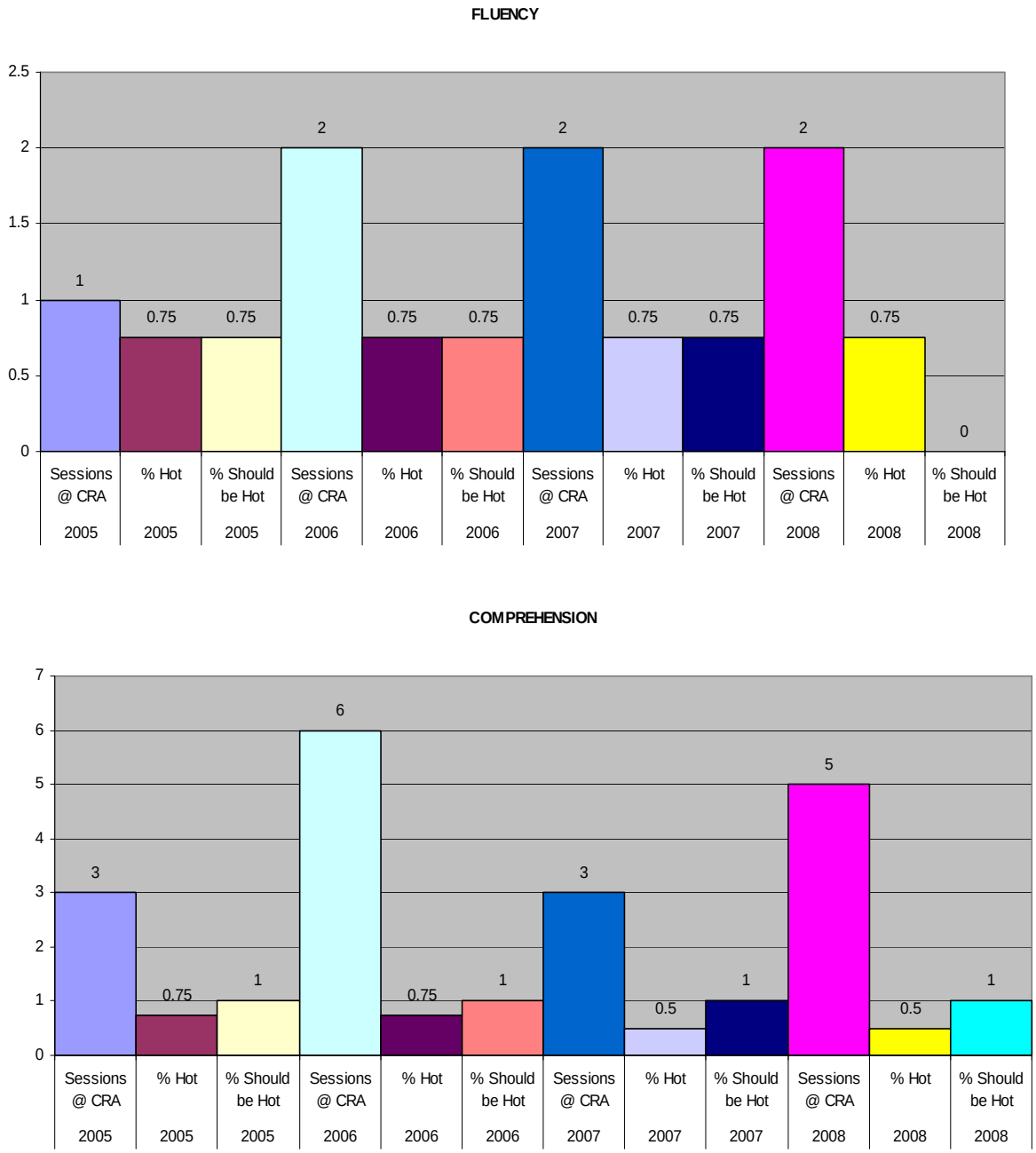


Figure 5. Phonemic awareness, phonics, vocabulary, fluency, and comprehension 2005-2008.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

The impetus for constructing this phase of inquiry was to investigate how many technology sessions were represented at a major literacy conference. Surprisingly, the researchers discovered that technology as a topic was consistently represented at the conference between the years 2005-2008. Additionally, topics such as "children's literature" and "content area reading" were also prevalent between the years 2005-2008. The analysis of data also illustrated that "assessment" was yet another topic to note. In 2005 and 2006, the field only recognized "high stakes" assessment. In 2007, assessment as a topic was represented by two categories including "high stakes assessment" and a new topic, "curriculum-based assessment."

The total number of sessions focused on the five essentials was reduced in number each year as is noted; *2005 = 16 (15%), 2006 = 11 (13%), 2007 = 9 (11%),* and *2008 = 8 (7%).* Across the board, comprehension and vocabulary were represented in all years. Phonics was the least represented topic with 0% of sessions involving this topic. Phonemic Awareness and Phonics combined were represented less than 1% at the conference. Fluency was steadily increasing through the years with almost 2% of all sessions represented over the years 2005-2008 with vocabulary and comprehension increasing a little over 4% between the years 2005-2008.

An overarching finding from the analysis revealed that the majority of presentation sessions were devoted to topics other than the five essentials. The following table indicates the number of sessions analyzed per year as well as those topics (beyond the five essentials) which emerged from the analysis:

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Table 6: Conference Session Number & Topics Differentiated by Year (2005-2005)

Topic	2005	2006	2007	2008
Preservice Teachers Ed.	18	11	11	10
Technology	10	7	6	12
Research method	5	4	7	13
Children's Literature	7	6	4	9
Assessment	4	4	10	7
Literacy	8	6	5	4
Writing	3	10	5	4
Multicultural education	5	7	4	1
ESL	3	2	3	4
Content Area Reading	4	3	4	10
Graduate Students in Literacy	0	5	0	5
Struggling Readers/At-risk readers	2	2	1	3
Reading Clinics	2	2	0	3
Motivation	2	0	3	2
Tutoring	3	0	0	2
Informational Text/Nonfiction	2	1	0	2
Literacy coaching	1	0	0	4
Teacher Beliefs	2	0	0	1
Reading First	0	2	0	1

** Not listed as General Literacy/ please refer to adolescent, preschool, and family literacy which are differentiated on the list.*

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Table 7: The Five Essentials and Number of Sessions Differentiated by Year

Essential	2005	2006	2007	2008
Phonemic Awareness	1	0	1	0
Phonics	0	0	0	0
Vocabulary	11	3	3	1
Fluency	1	2	2	2
Comprehension	3	6	3	5

Phase #4 – Interviewing Through Focus Groups to Investigate Teacher Beliefs and Instructional Practices When Integrating Technology With Literacy Instruction

In this final phase of the study the focus returns to the classroom teacher and an ear is given to their voice. Focus group methodology was employed to allow the researchers direct interaction with teachers who successfully employ technology in the early childhood classroom in meaningful ways. As Stewart and Shamdasani (1990) suggest, focus groups permit the respondents and researcher to interact and help respondents build synergistically upon their discussions. Meanings are often deepened in this flexible environment which is particularly useful with literate individuals such as early childhood educators. Although there are many benefits, certain limitations are inherent in the methodology which must also be considered. Most significantly, the small number involved in a focus group prohibits broad generalizations; additionally, the interaction may limit independence of thought in the responses. Despite these limitations the focus group methodology was selected to conclude this multi-phase study in order to understand how respondents talk about a particular phenomenon and lend structure and interpretation to previously obtained results.

The goal of the conversation was to allow teachers the opportunity to share their voices as they discussed both their classroom and professional experiences related to meaningful technology integration with literacy instruction. Therefore, the following research questions guided the focus group discussion:

Volume 13, Number 1: February 2012
ISSN: 1535-0975

1. What technology do you currently use in the classroom?
2. How do you currently integrate technology with literacy instruction? How has this changed over time?
3. Where and how do you acquire the information needed to support your successful integration of technology?

Mode of inquiry

The nature of the focus group was upheld by a nonthreatening environment around a dinner table. Participants were offered a broad overview of the topics to be discussed prior to coming to the focus group session. Consideration for the least talkative individuals was detailed in their placement around a large dining table which also afforded eye contact between all members of the group as well as the discussion facilitators. Respondents were given a pen and paper to jot down thoughts that might have been prompted by colleagues' responses as the discussion unfolded. At the onset of the session, the respondents were asked for permission to record the discussion which was granted by all. As the session began, each participant was asked to briefly introduce themselves to the larger group. The facilitators assured each participant that their input was valuable and indeed essential to success of the discussion. As the interview transpired, careful attention to time spent on each question was monitored to ensure that each very important topic was carefully considered and integrated into the discussion. The discussion was fruitful and extended over a three hour period which included dinner and dessert.

Focus group methodology is a viable mode of inquiry when investigating teacher beliefs and practices in the early childhood domain (Laffey, 2004; Makin et al. 2000).

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Data sources

The data sources for this phase of inquiry include the tape recordings as well as the transcription of the focus group discussion.

Results and conclusions

The following discussion of results and conclusions is centered on the three research questions guiding this investigation. Through an analysis of the teacher interview transcripts, findings emerged which included the following:

1. Teachers as technologists,
2. Funding and grant opportunities to support technology integration,
3. Sufficient time to implement and integrate technology in meaningful ways,
4. Emulation of real world technology applications within the classroom, and
5. Collaboration and collegial team building between and amongst teachers.

These five are further discussed and illustrated within the context of each of the following research questions which served as the foundation for this investigation.

What technology do teachers currently use in their classrooms? The data indicated that six out of the seven teacher participants currently used Smart Board technology in their classrooms. In addition, they coordinated the Smart Board with peripherals such as Elmo Projectors, Digital Cameras, Image Projection Devices, and Digital Recorders. In all of the classrooms computers were accessible for students to use on a regular and ongoing basis. Students had access to computer programs including Accelerated Reader, I Excel, STAR Math, STAR Reading, and EarRobics. As one teacher noted,

> We have fantastic classroom programs and great technology in the classrooms. There isn't enough time in the day to utilize it effectively. . . . We are working on overload.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

> My Elmo sat . . . for two months. I wasn't ready for it because I didn't know. Now that I have it, I use it every day, all day long. I don't get the overhead out. (Focus Group, 3/3/10)

The teachers in this particular school are collaborative and heavily rely on their colleagues as resources and are supportive of each other's professional growth. This is evidenced in the following statement: "We're very rich in the resources that we have compared to some of the buildings. We're lucky that we have people trained. [We] support each other" (Focus Group, 3/3/10).

Even in this very supportive school community, one teacher noted that there yet remains a number of road blocks. One such issue is related to sources of electrical and bandwidth power within the district necessary to maintain functional levels for the technology. This is suggested in the following comment, "The other issue is, we are still working on service to the whole school for the computer. They keep adding and adding programs. They have done some changes downtown. I don't think they can move fast enough to keep enough" (Focus Group, 3/3/10). Additionally, cooperation within the district impedes authentic use of the Internet. As all participants agreed, "When you find a good place you would love your students to use, a lot of our computers are not able to utilize that" (Focus Group, 3/3/10). Certainly, the biggest controversy is the proprietary nature of some of the commercial vendors with whom the district has purchased site licenses which prohibits the teacher from engaging in extensive planning opportunities outside of their classrooms as teachers bemoan the fact that,

> The biggest problem with that is, you can't get it at home. If you're doing lesson plans you're stuck at school, trying to find the pieces that you want. You can't even get it at another school. It knows if you're in your own school. If you go to another school, you can't do that. (Focus Group, 3/3/10)

Volume 13, Number 1: February 2012
ISSN: 1535-0975

How do teachers currently integrate technology with literacy instruction and how has this changed over time? There were several themes which emerged as a result of the discussion around teacher integration of technology with literacy instruction. Teachers in this group noted that technology integration supported them in the following ways:

1. Collaborating,
2. Differentiating Instruction,
3. Motivating through constructivism and
4. Embedding real world life skills into the curriculum.

These notions can be illustrated in the discussion following words from the teacher participants.

As teachers plan the integration of technology into the literacy curriculum, they recognized the supportive nature of collaboration with colleagues. Teachers commented in the following ways:

> Having the internet and having the ability to find or tap into a resource like that. It doesn't just impact you but can impact the whole school system. The idea of the isolation and building something for my smart board for my classroom and only I get to use it, is disappearing. People can tap into something that is fabulous and all you have to do is make sure everybody knows about it. That's not a hard thing. You have to learn new language and translate it into something else. It's just, here's the link. I'll send it to you. It opens a door. That becomes one of the newer problems. How do I find the best in a reasonable amount of time so that I can make it work best for kids? You could spend forever hunting trails. That's another issue. When you find the site, I love the fact that everyone is good at sharing that kind of thing. You're not out there struggling all by yourself. That kind of feeling is unique to our building.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

> Our family reminds me all the time that there aren't too many Portage Paths around. There's a ton of that in that building. I've chosen to stay there for a long time because I love that feeling. I cannot say it's not encouraged in other buildings. (Focus Group, 3/3/10)

Technology integration has also encouraged teachers to differentiate instruction across the literacy curriculum. Specifically, the teachers acknowledged that

> That's a handheld hundred dollar computer that thinks with a host computer. There's software on there for math and for reading and some literacy. The teacher can prescribe per student. If you have somebody reading at a very low reading level, or reading at an A, B or C level, you can tune that machine to do work at their level compared to somebody else who may be at a D or an H, or another reading level. That came from a grant from Chase. It's not in the whole school system. It's in maybe four and You set up the skill sets for individual students. It monitors and it can give you feedback as to how you're doing. (Focus Group, 3/3/10)

Technology also proves to increase motivation as students engage in constructing their own connections and making meanings through the literacy curriculum. It was noted that

> I like the fact that they're taking ownership. This is their learning. They're helping each other. They're getting stuff. They're learning the same thing, but they're in control of how it's going. They're doing the calendar. They're doing the numbers. It's interactive with them. They're learning how to use new technology. I think it's fabulous. There's no going back. There's only going forward, adding more pieces and Everybody gets more excited. They tend to sit closer to each other, so that everybody is closer to the smart board. The whole feeling of the room changes when we do something. (Focus Group, 3/3/10)

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Above all, the teacher participants understood the power of technology in the literacy curriculum to frame their students' understanding of real world skills as well as the foundational skills necessary for their technologically enhanced futures. The teacher participants concurred that

> One factor is feeling responsible, to have the children as successful as possible. Not so much for their own school, but for their own life. One of the things that you said, when you're talking about technology, we are preparing our students for a world that's totally different from the world that we grew up in. Technology is part of that world. The more technology that we can have in their world, helping them use it appropriately, helping them search for information, helping them know how to find things, how to utilize their skills, the better prepared they will be. Their world will never be even the way it is now. Think how much it's changed in five years. Five years from now, it will be completely different. They will always have this. We grew into this. We didn't have this and I was talking to someone the other day. The sad thing of it is, see that computer over on that table? You can put this down and the computer. Which one do you think the kids going to go for? That's their generation. This is their time, the computer. It's not the thing that we have in our classrooms that we think is WOW. It's not. If we can get them to that path, it's like this. It's all over. How awesome can you be? They can do their writing on it and print right off of it. All you need is one computer in the classroom to print off of. It is what it is. We hold them back. We talk about this all the time. We're gate keepers. I think we hold them back and don't mean to. You just don't have the resources available at this point. (Focus Group, 3/3/10)

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Where and how do teachers acquire the information needed to support their successful integration of technology with literacy instruction? There were three constructions that emerged from the data set informing this research question. It was evident that the teacher participants delineated their acquisition of professional development on three distinct levels which included at the district, school, and individual teacher level.

The teacher participants shared that the district had established a framework which allowed for sharing and dialogue around selected professional literature. All teachers were required to participate in this endeavor and were reimbursed for their efforts. The teacher participants explained that

> . . . the books we did in our book study the first semester, the K-3 writing and the café for the upper grades . . . neither one of our groups ever really got through the whole book.. what we talked about doing was expanding those two books and For six hours, we select a book or two and the teachers put together their own group of people. They push how they're going to do the books. If we went with café for the upper grades, K-2 writing for the lower grades, that would all mesh together. You know you're going to need to do at least six hours for the study group. We went back to the smart board group, focusing on the literacy component of it, because that's what the K-2 writing was, and that's what café is. We began to go back to making use of our technology resources, but taking the literacy, practice in writing that is there for us now. We worked hard to mesh it together and create that sense of community in them. I felt, when we moved to the new building, we're all on one floor, and sometimes it doesn't feel like it. We're spread out. You and I are in our own little world, and then WAY down there is the other. (Focus Group, 3/3/10)

Volume 13, Number 1: February 2012
ISSN: 1535-0975

The strongest asset of this particular group of teacher participants was willingness to share opening with other school colleagues. This is evident in many ways as is illustrated in the following examples:

> . . . we would meet and we would just kind of sit and share our ideas about what we did today or how you get into the notebook, how you get to be interactive? What are the steps? We would just sit there and seriously write a note . . . that's what helps me, to actually sit there and watch somebody do it and Multiply that with all the other people around us. If you are at different levels, you have the ability to bounce off each other. You will go to your next level and John will go to his next level and We're so lucky to have each other to get to the next level. I went to a class of beginner smart board. The person that was teaching it couldn't get anything working. Nothing was working. Finally, [an instructor colleague] came to the class, and was expert at it, to learn more about it. She ended up going up in front and suggesting gently. You might want to try that, or let's try this. That's how you learn, by watching it successfully done and Just getting together and sharing the different things. I never would have thought to use the smart board as your circle time until you see that. I thought that was brilliant and . . . said, look at this site and this site. I looked at the sites and picked everything I liked, that I thought would work in my class and just adapted it. I'm forward thinking. This is what I'd like to see my kids do. This is how technology can help in Kindergarten, now how can I get to that point? (Focus Group, 3/3/10)

What was truly inspiring was the vision and motivation that these teacher participants possessed although each in very different ways. The strongest of these is represented in the following teacher comment:

Volume 13, Number 1: February 2012
ISSN: 1535-0975

> If I could dream it and have everybody do it, one would be twitter. Use twitter as a way of getting educational people that are sharing their educational things. There are three or four people who talk. Sometimes, I watch two guys from Britain. I did get a response from one guy. He'll respond back sometimes, a direct message back to me, or out to the public. He sent one out just recently about his favorite apps on his I phone. I started looking at the apps he had. I didn't have that one. It's a free one. I'll check it. I love it. There's some great stuff. Most of it is free. If I could dream that it would happen for us, it would be one to start to build on how you use twitter for educational people. It would get you what people are doing in their classroom and sharing what they're doing. Then, us starting to share. I found this site. A lot of times, here's a site that does this. Click that. I tend to look at it later. The other one I think that's real powerful is finding a few good sites and work that through Google reader. You're Google reader to go and just give you a quick synopsis of what those twenty things are. If anything is of any value, that's when you click that one. You're sifting just the titles and looking at just the titles. A lot of things I found that I've shared like Wordal. A lot of slideshows. There's 20 ways to use a flip cam or something like that. That all comes from somebody on a blog saying they're using it or they're doing that. For me, that would be the dream come true. People using that. (Focus Group, 3/3/10)

The discussion of the integration of technology has an historical presence. Even as the Woods Hole scholars in 1959 contemplated the changing face of education in the post-Sputnik world, they noted the growth of technology but only in the form of a teaching machine (Bruner, 1960). The value of these "automatizing devices" was to lighten the teacher's load by providing programmed immediate correction and feedback to the learner. Bruner concluded by noting that it was premature to estimate the efficacy of these machines

Volume 13, Number 1: February 2012
ISSN: 1535-0975

and he felt that early claims had been greatly exaggerated. The importance of the teacher remained central to the classroom as Bruner explained:

> Clearly, the machine is not going to replace the teacher – indeed it may create a demand for more and better teachers . . . nor does it seem likely that machines will have the effect of dehumanizing learning any more than books dehumanize learning. (p. 84)

As can be gleaned from the teacher voices in the vignettes shared previously, teachers are paramount to successful incorporation of technology in meaningful ways and fostering their continued development is essential for the literacy futures and lives of this nation's current and future youth. In closing, the following teacher comment represents its significance:

> When I have my smart board in front of the class, and when I had my Elmo in front of the class, I think I'm going to be able to use them more. I think you do arrange your classroom around the things that are most effective. I think you become a more effective teacher. I think I'll do a better job next year than I am right now. I'm looking forward to that, taking a step up from where I am now. (Focus Group, 3/3/10)

Discussion of Future Implications

Researchers in this study began their quest with the mission of investigating where primary grade teachers might find support for the meaningful integration of technology into their literacy curriculum. They pursued this research path through four phases utilizing a variety of methodologies to inform the research questions which explored this topic from various perspectives. Together the conclusions resulting from each of the phases illuminates a picture of current research and practice centered on the topic of technology integration in the early childhood classroom to support and enhance meaningful literacy instruction.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Leu (2000) reminds us that the nature of literacy is continually changing and being re-defined as he has coined the term "deixis" to describe this phenomenon. As Leu has also observed, the deictic nature of literacy has profound implications as we consider research which ultimately informs literacy practices. Thus, we are led to question if our existing research methodologies are able to capture the significant components of literacy teaching in the technological 21st century.

The review of literature conducted by the authors of this paper demonstrates that at present, the U.S. Department of Education values scientifically based research studies to provide exemplary models of instruction. The authors believe that the following potential questions may help guide this critical area of concern. Where will this conversation happen? Are research journals the most effective modes of transmitting information on a subject that is continually changing? Do we as researchers also need to employ formative evaluations through the use of technology? Can the government open lines of communication between willing educators to digitally explore these crucial issues and offer insights from their classrooms? Do we need to train every teacher as a researcher? These questions may provide an avenue for exploration as we begin to discuss future lines of research from this area of inquiry.

Through the current research investigations it was found that teachers most likely to integrate technology in skillful ways along with a literacy focus are also likely to be highly adept in their uses of the technological tools available to them. What this suggests is that looking more closely at the experiences of teachers integrating technology successfully would be useful. This also may be a viable path to offering the necessary scaffolding in an effort to design and facilitate meaningful professional development opportunities for those teachers wishing to learn how to integrate technology in effective and meaningful ways.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

In-service teachers must expand their mission of preparing children for their futures by keeping a mindful eye on the new demands still unimagined in the professions and workplaces of tomorrow. This necessitates the preparation of in-service teachers to integrate new technologies in meaningful ways in their classrooms. Therefore, our direction must turn to improving the relevancy and purpose of professional development. That is to say, at every level from the classroom teacher to the college professor, the topics for professional development need to be applicable to this new technological classroom and relevant to the individual practitioners' developmental level. Moreover, professional development should be presented in such a way that educators at all levels will be motivated to gain the confidence and access the technological tools that currently are, or will be present in their future classrooms. With this in mind the researchers are led to questions regarding the current nature of professional meetings. Is the conference environment conducive to demonstration of 21st century technology skills? Are technology-related sessions focused on the continuum of learners from early childhood to adult?

Slowly, we are beginning to see "online" digitized workshops transmitted to teachers as models of effective classroom practice. Conversations with practicing classroom teachers suggest that they are taking ownership of their own professional development in this critical area. At present, they are forging professional relationship both "in person" and in cyberspace and are using the Internet as a viable source for enhancing their classroom practice as related to technology integration with literacy instruction. Consequently, researchers also need to understand and embrace this new venue for their sharing professional dialogue.

As we all, classroom teachers and researchers alike pass our specific intellect across the table, the menu of possibilities for the early childhood student will be expanded to include new solutions and those focused to embrace more appropriate resolutions. In closing, the

Volume 13, Number 1: February 2012
ISSN: 1535-0975

authors strongly encourage that research of this nature be given a new stage; one that will allow for an intellectual dynamism whereby all stakeholders, teachers and researchers alike, will have a voice that is heard.

References

Barberet, R. (2007). A content analysis of presentations at American Society of Criminology Conferences. *Journal of Criminal Justice Education*; *18*(3), 406-427.

Brown, S., (1996). Q methodology and qualitative research. *Qualitative Health Research, 6*(4), 561-567.

Brown, S. R. (1991). *A Q methodological tutorial*. Retrieved September 8, 2007 from http://facstaff.uww.edu/cottlec/ QArchive/Primer1.html

Bruner, J. (1960). *The process of education*. Cambridge: Harvard University Press.

Coiro, J. (2005). Every teacher a Miss Rumphius: Empowering teachers with effective professional development. In R. Karchmer, M. Mallette, J. Kara-Soteriou, & D. Leu (Eds.), *Innovative approaches to literacy* (pp.199-219). Newark, DE: International Reading Association.

Duke, N., & Mallette, M. (2004). *Literacy research methodologies.* New York: Guilford Press.

Educational Research Service. (1998). Professional development and support: An essential ingredient of instructional technology planning. *The Informed Educator Series*.

Elhoweris, H., & Alsheikh, N. (2006). Teachers' attitude toward inclusion. *International Journal of Special Education, 21*(1), 115-188.

Gall, M., Gall, J., & Borg, W. (2003). *Educational research: An introduction* (7th ed.). Boston: Pearson.

Gee, J. P. (2003). A sociocultural perspective on early literacy development. In S. B. Neuman, & D. K. Dickinson (Eds.), *Handbook of early literacy research* (pp. 30-43). New York: Guilford Press.

Kamil, M., & Intrator, S. (1998). Quantitative trends in publication of research on technology and reading, writing, and literacy. In T. Shanahan & F. Rodriquez-Brown (Eds.), *National Reading Conference Yearbook, 47,* 385-396. Chicago: National Reading Conference.

Kamil, M., Intrator, S., & Kim, H. (2000) The effects of other technologies on literacy and literacy learning. In M. Kamil, P. Mosenthal, D. Reason, & R. Barr (Eds.), *Handbook of reading research:* Volume 3 (pp. 771-788). Mahwah, NJ: Lawrence Erlbaum.

Kamil, M., & Lane, D. (1998). Researching the relationship between technology and literacy: Agenda for the 21st century. In D. Reinking, M. McKenna, L. Labbo, & R. Kieffer (Eds.), *Handbook of literacy and technology: Transformations in a post–typographic world* (pp. 323-341). Mahwah, NJ: Lawrence Erlbaum.

Joyce, B., & Showers, B. (1988). *Student achievement through staff development.* White Plains, NY: Longman.

Labbo, L., & Reinking, D. (1999). Negotiating the multiple realities of technology in literacy research and instruction. *Reading Research Quarterly, 34,* 47-492.

Laffey, J. (2004). Appropriation mastery and resistance to technology in early childhood preservice teacher education. *Journal of Research on Technology in Education, 36*(4), 361-382.

Lankshear, C., & Knobel, M. (2003) New technologies in early childhood research: A review of research. *Journal of Early Childhood Literacy, 3*(1) 59-82.

Leu, D. J., Karchmer, R. A., & Leu, D. D. (1999). The Miss Rumphius effect: Envisionments for literacy and learning that transform the Internet. *The Reading Teacher, 52*(6), 636-642.

Leu, D., Kinzer, C., Coiro, J., & Cammack, D. (2004). Toward a theory of new literacies emerging from the Internet and other information and communication technologies. In

R. Rudell & N. Unrau (Eds.), *Theoretical models and processes of reading* (Vol. 5, pp. 1570-1613). Newark, DE: International Reading Association.

Lyon, C., & Pinnell, G. (2001). *Systems for change in literacy education: A guide to professional development.* Portsmouth, NH: Heinemann.

Makin, L., Hayden, J., & Diaz, C. (2000). High quality literacy programs in early childhood classrooms: An Australian case study. *Childhood Education, 76*, 368-373.

Pianta, R., Steinberg, M., & Rollins, K. (1995). The first two years of school: Teacher-child relationships and deflections in children's classroom adjustment. *Development and Psychopathology, 7*, 295-312. doi: 10.1017/S0954579400006519

Reinard, J., & Ortiz, S. (Sep 2005). *Communication law and policy: The state of research and theory. Journal of Communication, 55*(3), 594-631.

Rimm-Kaufman, S. Storm, M., Sawyer, V., Pianta, R., & LaParo, K. (2006). The teacher belief Q-sort; A measure of teachers' priorities in relation to disciplinary practices, teaching practices, and beliefs about children. *The Journal of School Psychology, 44*(2), 141-165.

Robb, L. (2000). *Redefining staff development: A collaborative model for teachers and administrators.* Portsmouth, NH: Heinemann.

Sanders, D. P., & Schwab, M. (2001). A school context for teacher development. *Theory Into Practice, 19*(4), 271-277.

Sandholtz, J. H. (2002). Inservice training or professional development: Contrasting opportunities in a school/university partnership. *Teaching and Teacher Education, 18*, 815-830.

Scherer, M. (1985). 1984 and six years before: A content analysis of the 86th and 92nd American Psychological Association Annual Conventions in Toronto, Canada. *American Psychologist*; *40*(2), 246-248.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Shamburg, C. (2004). Conditions that inhibit the integration of technology for urban early childhood teachers. *Information Technology in Childhood Education Annual,* 227-244.

Stewart, D., & Shamadasani, P. (1990). *Focus groups: Theory and practice.* London: Sage Press.

Vygotsky, L. S. (1978). *Mind in society.* Cambridge, MA: Harvard University Press.

Zepeda, S. (2002). Linking portfolio development to clinical supervision: A case study. *Journal of Curriculum & Supervision, 18*(1), 83-102.

Journal of Literacy and Technology
Volume 13, Number 1: February 2012
ISSN: 1535-0975

At the Intersection: Librarianship, Writing Studies, and Sources as *Topoi*

Grace Veach, M.A.
Dean of Library Services
Southeastern University
gveach@seu.edu

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Abstract

Information literacy struggles to find its disciplinary home. Two disciplines that have laid a strong claim to it are librarianship and writing studies. While both are doing strong research, they both admit that by and large, students in introductory composition classes are not embracing the concept. The article suggests that by reinforcing the metaphors, already present in both disciplines, of sources as place, students might be convinced to take a more rhetorical, thus more comprehending, view of integrating their sources into their writing.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

On April 11, 2011, reporter Dan Berrett published an article entitled “Skimming the Surface” in *Inside Higher Ed.* In the article, he reported on a panel at CCCC that presented the findings to date of The Citation Project. According to the article, Rebecca Moore Howard and Sandra Jamieson shocked a standing room only audience with their findings that only 9% of research citations summarize students’ research; the other 91% quotes, paraphrases, or “patchwrites” (patchwriting is a sort of hybrid between quotation and paraphrase) very small portions of the source, indicating that the student has probably not read and absorbed the source material, but has located the first likely-looking passage—since more than 75% of the cited material appeared in the first three pages of the article—and generated a source from it (Jamieson and Moore Howard). The author of the article uses terms like “stunned,” “shock,” and “gasps” to emphasize the dramatic nature of these findings.

The audience was probably not as stunned as the reporter might have us believe. Those who teach First Year Composition and other writing classes, especially to undergraduates, have long realized that students’ interaction with sources is problematic. It is no secret that students value the speed and efficiency of the internet in finding sources at the same time that they are confused by the multitude of possibilities available. Nor is it unusual for students to insert quotes from unread articles into their papers at the last minute. Perhaps because of its origin at CCCC, the article mentions libraries only in the last paragraph, and then only to quote an unnamed audience member: “What we've forgotten is that libraries were the repositories where people made judicious claims about what sources are worth reading” (Jamieson and Moore Howard).

This very situation that perplexes the *Inside Higher Ed* reporter and vexes the researchers and audience members of the C’s panel sets the stage for this article. Although

Volume 13, Number 1: February 2012
ISSN: 1535-0975

The Citation Project researchers presented the most current research, the article describing their findings leaves a large gap which is filled only by an audience member's quote; the entire discipline of library science and the sub-discipline of information literacy were absent from the discussion. This lacuna works in two directions; librarians also publish almost exclusively in library journals and present at library conferences, and they too miss many opportunities to provide disciplinary insights from rhetoric and composition. True interaction between the two disciplines about mutual concerns regarding plagiarism and the discovery and successful utilization of sources, while not unheard of, is somewhat rare, especially on the more theoretical level. This article will attempt to bring librarianship and writing studies into conversation about information literacy by suggesting that introducing metaphors of place[1] might provide a starting point for the cross-disciplinary thinking needed to overcome some of the dilemmas that both disciplines have identified in students' research and use of sources. If true interdisciplinary cooperation does not happen in the near future, information literacy as a sub-discipline may well disappear, as neither group sees the entire picture. Only by overlaying the two pictures stereographically will a three-dimensional representation emerge.

Information literacy, with its roots in librarianship and its tendrils reaching across disciplines, lacks a well-defined disciplinary home. In many ways, its borders bend and blur, refusing to remain fixed, making it a non-sovereign territory. Information literacy has been claimed by different disciplines at different times and for different purposes, most notably by librarianship and writing studies[2]. The disciplines seem to have gone their own ways,

[1] The traditional metaphor for the incorporation of sources is that of the conversation, often referring to the Burkean Parlor and inviting the student to become familiar with the ongoing scholarly discourse and to add new material to this conversation. While there is much to commend this approach, new metaphors will refresh instructors' approach to information literacy and perhaps offer new avenues of inquiry.

[2] "Writing studies" in this paper will refer to the disciplines of Composition, Rhet/Comp, Technical and Professional Writing, etc.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

however, each writing about and researching information literacy with little reference to the vocabulary, disciplinary conventions, and previous research of the other disciplines. As Heidi and Dale Jacobs put it, "When we talk only to those who teach what we teach, we run the risk of mistaking our part for the whole or thinking about what we teach in isolation from other forms and forums of teaching and learning" (72–73). Other disciplines than librarianship and writing studies have also published about information literacy, although on a much more basic level (Abowitz). We will only serve to enrich information literacy as a concept or as a sub-discipline when we bring in these multidisciplinary voices, increasing the vocabulary with which we can discuss information literacy, broadening the metaphors with which we view it, and approaching our pedagogy with more creativity.

Librarianship and writing studies are two disciplines that have traditionally been pushed to the outskirts of academia. In librarianship, this has frequently taken the form of librarians fighting for faculty status and recognition, often because they lack official standing within the curriculum. In writing studies, the preponderance of sections taught by adjunct instructors and graduate students has suggested that "real" English professors teach literature, while teaching writing is relegated to contingent or graduate instructors. James Elmborg writes, "Both writing instructors and library instructors in the early days were considered second-class professionals doing a job that involved 'paying dues' before being allowed to move into more prestigious positions" (68). Although there are obviously differences between them, both librarians and composition instructors have been expected by faculty members in other disciplines to instruct students in techniques rather than content; these other disciplines tend to view both information literacy and rhetoric/writing as skill sets rather than as possessing content knowledge. For rhetoric, this controversy reaches back to Plato and his discussion in the *Gorgias* of whether rhetoric is a "knack" or a "true art." A "true art" implies mastery of content knowledge and the ability to generate new knowledge, while a "knack"

Volume 13, Number 1: February 2012
ISSN: 1535-0975

merely requires that one be able to manipulate words skillfully, and implies a lack of deeper understanding. Because these "knacks" require only surface knowledge and the ability to apply a set of rules, many faculty members in other disciplines expect students who have had introductory composition or an introduction to research to possess all of the necessary skills to write or research competently in subsequent coursework, especially coursework in their own disciplines even though studies (Norgaard; Wardle) have shown that we cannot take the transferability of these skills for granted.

As far back as 1982, Richard L. Larson argued that the assignment known as "the research paper" should no longer have a place in the composition class. He reasons that disciplines view "research" so differently that teaching students a single genre known as "the research paper" serves no useful purpose and may actually confuse them when they prepare to do research as their discipline knows it (Larson). This proposal, had librarians known of it, would have scared them to death, since a good part of their disciplinary identity derives from teaching information literacy as it relates to the research paper in composition classes. Since so little cross-disciplinary conversation goes on, however, librarians continued to visit composition classes in blissful unawareness.

Librarianship and Information Literacy

Even though the two disciplines share their position on the periphery of academia and the often-unreasonable expectation of preparing students for skilled, discipline-specific writing and research, they have usually taken disparate—though both valid and helpful—approaches to the subject area known as information literacy. Historically, librarians have interacted with the research process in higher education by going into the classroom and giving a "BI" (i.e. bibliographic instruction) session which usually served as an introduction

Volume 13, Number 1: February 2012
ISSN: 1535-0975

to the campus library. Information literacy developed in the 1980's out of these bibliographic instruction efforts of academic libraries. As computers began to connect libraries and other repositories of knowledge, and then to actually provide information via the internet, librarians realized that in addition to knowing how to use the local library, students would also need facility in dealing with their information needs in a more global fashion. Information literacy, then, developed from this desire to broaden the instruction students were receiving with both immediate academic needs and lifelong learning in mind (Gilton). With the advent of information literacy, librarians also saw the opportunity to define a portion of the curriculum which "belonged" to them, with outcomes, standards, and behaviors (just like a "real" discipline)[3]. Having come late to the table, though, librarians have had difficulty gaining institutional buy-in to the concept of information literacy as a key learning outcome, especially when it calls for actions beyond mere lip-service from administration or other departments outside the library's walls.

The concept of information literacy began in the library world and has remained there since, although many disciplines have begun to see the value of information literacy and to claim information literacy for their disciplines, with discipline-specific practices. The Association of College & Research Libraries (ACRL) has taken the lead in formalizing information literacy standards and outcomes for higher education. Most U.S. institutions of higher education accept the information literacy standards this body has published[4]. After the

[3] See the ACRL Standards for Information Literacy.

[4] The American Association of School Librarians (AASL), also affiliated with the American Library Association (ALA) has established information literacy standards for K-12 institutions. The two groups, ACRL and AASL have worked together to correlate the standards. The Big6 is an information seeking model, generally used with K-12 students, which incorporates the information literacy standards into six steps: task definition, information seeking strategies, location and access, use and information, synthesis, and evaluation.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

initial idea of information literacy gained a foothold in the library world, librarians and disciplinary experts who saw the value of information literacy began to further refine the concept to meet specific disciplinary needs. The ACRL has established websites for many of these discipline-specific initiatives, including rhetoric and composition. Even though information literacy within the disciplines is now receiving more attention from the disciplines, librarians still perform the majority of the research and publishing on the topic. Of twenty-five articles in the bibliography on the ACRL "Information Literacy in Rhetoric & Composition" wiki, for example, all but six first appeared in library-related journals ("Information Literacy in Rhetoric & Composition Studies"). Although the skills involved in information literacy have long been a part of the curriculum in many introductory composition classes, the scholarly work has, until quite recently, for the most part been left to librarians.

Most librarians believe that information retrieval comprises only one small portion of the field of information literacy. Unfortunately, librarians generally receive very little time with a class and must give aid where it is most needed; writing professors generally expect that if librarians have time to teach only one skill, they should show students how to find the best or most important existing literature (Holliday and Fagerheim). This may be one reason that librarians tend to focus so much on the "how-to" of finding sources. Another reason is that the tech-savvy students now entering college often know only the basics of technology,

Volume 13, Number 1: February 2012
ISSN: 1535-0975

but not its subtleties, especially in the specific area of searching for sources. Although Google Scholar has somewhat eased the situation, databases often still "hide" the best sources. Librarians feel they must introduce the students to the wealth of information not accessible to a quick and simple Google search and convince them that their time will be well-spent if they take a few additional minutes to dig more deeply.

As a result of these institutional- and classroom-level challenges and because information literacy teaching is often only one line on an over-long job description, librarians have at times been forced to reduce their teaching of information literacy to a quick introduction for students on how to find useful sources; they have left it to the compositionists to concentrate on helping students incorporate the sources into their own writing. To generalize broadly, if the skills involved in information fluency represent both art and science, librarians tend to concern themselves more with the science, while compositionists try to teach the art. Librarians ask objective questions: "Which database do we use?" "What are the best search terms?" "How should we combine search terms to narrow our focus?" Compositionists ask subjective questions about the extent to which a source should be cited, the stance the writer should take in relation to the source, and so on. This is a direct result of the time each discipline has with the students.

A study conducted in Australia lists three levels of information literacy often encountered in undergraduate classes. At the first, basic level—which we wish our students to move past—the students search for evidence only to validate their own opinions. These students have no real interest in actually learning about their topic, often because the class is a part of the general education, and therefore required, or because they have not allowed themselves enough time to fully engage with the writing and research processes. In level two, students concentrate on constructing an argument. This level shows increased maturity and facility with sources, and leads to level three, in which students actually apply what they have

Volume 13, Number 1: February 2012
ISSN: 1535-0975

learned to the knowledge they already possess or have recently gained in the class (Lupton). Obviously, we hope to assist students in moving from level one to level three during their university years.

As librarians discuss, study, research, and write on information literacy, we think along primarily pedagogical and argumentative lines: how can we best teach students the concepts of information literacy, and how can we convince them that finding good sources will reward the amount of additional time it takes? Librarians have published dozens of articles on presentation methods, scavenger hunts, tutorials, orientation ideas, search construction, and so forth. We write less frequently about the theory behind information literacy (i.e. do the five ACRL standards fully represent information literacy?), the nature of information currently available on the internet, in print, and within proprietary databases—other than teaching students how to evaluate it—or on how students should use sources once they have located them. Perhaps this is because a mental line between librarians and writing professionals has kept the librarians on the practical side of the line and yielded the theoretical side to compositionists.

James K. Elmborg traces the similar paths of historical writing instruction and library instruction, noting that writing instruction, because of required composition classes, successfully emerged as a new discipline, while library instruction in information literacy still struggles toward acceptance in the academy (69). In addition to the parallels between the disciplines, Elmborg also identifies differences. Primary among these is the lack of theoretical foundation (pedagogical and otherwise) informing information literacy teaching. He goes so far as to claim that "information literacy lacks the critical dimension it needs to work with WAC" (71). While librarians do tend to research and publish more practice than theory, some very good theoretical work has been and is being done to equip information literacy with a solid theoretical foundation. Barbara Fister and Wayne Bivens-Tatum, to name

Volume 13, Number 1: February 2012
ISSN: 1535-0975

just two, are both actively writing on information literacy theory and its rhetorical dimensions. Elmborg's own solution is to adapt process theory from composition to research, to introduce the idea of discourse communities into information literacy teaching, and to emulate the WAC model of enabling faculty in the disciplines to teach information literacy within their own disciplines.

Composition and Information Literacy

What, then, do writing professionals believe about information literacy? Barbara D'Angelo and Barry Maid have published a very helpful knol in which they present literature that begins to open up the space where information literacy and writing studies meet. They perceive that librarians create at least part of the divide when they teach research and citation techniques divorced from disciplinary (i.e. rhetorical) theory. They write:

> Teaching research as information retrieval in the bibliographic instruction tradition valorizes retrieval as the purpose of research so that information becomes de-contextualized and solely about finding information, any information, related to the topic whether it is relevant or not. When information literacy is taught rhetorically, however, retrieval and evaluation of information are placed within the context of the audience, the argument to be made, and the evidence presented in support of the argument (D'Angelo and Maid).

Because the two disciplines are often called upon to be transferable, it is not unreasonable to ask librarians to consider rhetorical theory in their teaching of information literacy. In other words, while librarians would want to avoid couching all of their teaching in terms of history, or another content discipline, this is not the case with the discipline of rhetoric, since writing

Volume 13, Number 1: February 2012
ISSN: 1535-0975

studies are also to some extent transferable. Unfortunately, librarians have shown a tendency to be rhetorically tone-deaf. When students complain that they have heard the same library session in three different classes, we suspect that the librarian has not approached these sessions with the audience in mind, but has merely gone over the same how-to-search checklist in each class.

Barbara Fister, a librarian, and Joseph Bizup, a rhetorician, each address this issue in articles that provide a useful introduction to rhetorical information literacy pedagogy. Fister points out that students often enter college without an understanding of the purpose of research. If a student does research only to gather information on a topic and report that to a professor, or even worse, only to find a "source" to append to a paper, the student is much more likely to misuse sources by overquoting, plagiarizing, patchwriting, or misappropriating. When students understand that sources are available as building blocks upon which they can build their own arguments, they have a better chance to learn to successfully incorporate sources into their writing (Fister). Bizup advocates that in addition to showing students how to locate relevant sources, instructors should also teach them four rhetorical uses for sources, to which he affixes the acronym "BEAM." Sources provide Background, offer material as Exhibits (or Examples), can furnish points for Argument, and can serve as models of Methodological practice. By identifying which of these purposes a given source serves, the student analyzes its rhetorical use in the paper (Bizup).

In his blog entitled *The Academic Librarian,* Wayne Bivens-Tatum discusses an article by Jennifer Nutefall and Phyllis Ryder which analyzes the different approaches that librarians and compositionists take toward student topic choice. He observes that librarians and writing specialists look at the research question differently. Librarians tend to want students to come to them with a focused research question because they can then assist the students in identifying keywords and finding resources on their topics. Writing specialists, on

Volume 13, Number 1: February 2012
ISSN: 1535-0975

the other hand, recommend that the student allow the research question to stay unfocused until relatively late in the writing process. They expect students to have done considerable preparatory reading before actually nailing down the topic (Bivens-Tatum).

Nutefall and Ryder, the authors of the article to which Bivens-Tatum refers in the blog entry above, make several guesses as to why this difference exists. They believe that librarians see students as more purposeful if they already have a topic (444), and that their own research focuses more on audience needs (445) than on the epistemic process in research. The authors also characterize librarians as more structured and methodical (446). They do not, however, hit upon another essential reason for the difference in the ways that librarians and compositionists view topic choice. Because librarians can observe students during much of their research process, they have knowledge about the process that composition instructors lack or overlook. Undergraduate research, especially in lower-division or general education courses, bears almost no resemblance to the research that professors did in their graduate courses and continue to do as members of the academy, and which they tend to call to mind when they ask their students to do research. Instructors may envision their students engrossed in the masters of the discipline while synthesizing their own new thesis, but this rarely matches the reality of the undergraduate research process, especially in general education courses. While graduate students do often allow their writing process to influence their topic choice, undergraduates rarely leave themselves enough breathing room to do this kind of exploration. When they start the paper twenty-four hours or less before its due date, reading, summarizing, and learning will be sacrificed to efficacy and word-count inflation. Unfortunately, the process of teaching undergraduate information literacy breaks down with this misunderstanding, because much of the teaching envisions the first, more idealistic model of research that rarely occurs.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

Many first-year composition do not do much preparatory reading; they do not even read most sources that they cite. Far from being current in the conversations within a discipline, these students generally have yet to realize that a conversation even takes place. The Citation Project's findings confirm this; although the researchers chose schools of varying types, from community colleges to Ivy League schools, the results were remarkably consistent across type of institution (Jamieson and Moore Howard). Most librarians can relate example after example of students coming in on the day that a paper is due and asking for help in finding sources. The paper is already written; the students just need sources to fulfill the requirements of the assignment and to support their own positions. Both disciplines need to begin with addressing this last-minute "research" behavior as we seek to educate students about discovering, then understanding, then participating in the conversation.

Place: Search & Shelter

In spite of different approaches to information literacy, both disciplines have traditionally used metaphors of place to describe to students the activities and goals of information literacy. In Lakoff and Johnson's *Metaphors We Live By,* the authors demonstrate that the metaphors with which we discuss various ideas are so built in to cultures that they become invisible (Lakoff and Johnson 14). If we shift the metaphor slightly, we may be able to rejuvenate the over-familiar phrases that have become clichéd. While the metaphor of conversation is still useful in information literacy, perhaps a new metaphorical emphasis on place will establish a more disciplinarily-inclusive environment for information literacy. In a way similar to that in which Lakoff and Johnson tease out metaphors and implications surrounding a certain concept, I would like to begin to unearth metaphors of place that are, or could be, employed in our discussions of information literacy. Place and

Volume 13, Number 1: February 2012
ISSN: 1535-0975

space are often used interchangeably, and with the advent of environmental consciousness and ecological criticism, place studies have become a subdiscipline in many fields. Here I wish to use "place" in a way that implies a weak binary with "space." As opposed to "space," "place" has borders (one would know whether or not she was in that place), it has a definite name, and there is perhaps even a sense of comfort, familiarity, or hominess.

Two aspects of the spatial metaphor are often applied to information literacy. The most familiar and common of the information literacy place metaphors is the search. The hunt, the quest, the discovery of new territory that can be mapped, are all expressions that are common in describing the teaching of information literacy. Librarians help students "find" sources, as if they were lost items or undiscovered territory. In the past, this discovery was often literal, since most researchers initially found a card "hidden" in one of hundreds of drawers among thousands of identical-looking cards, which identified an item that someone then had to "track down" within the library. Students of today more commonly locate both their citations and their sources themselves within cyberspace—yet another spatial metaphor—though they still tend to need librarians as guides to some of the intricacies of this territory, in order to transform the vastness of that space into a place that can be negotiated. Whether virtual or actual, much of the reference librarian's task remains a hunt for information, one that can intrigue, educate, and capture the imagination.

Librarians have traditionally used spatial metaphors in teaching students to locate sources; most readers will probably remember hearing at least one librarian describe the Venn diagram. The Venn diagram, borrowed from set theory and related to Boolean searching, allows students to visualize the relationships between related subjects, for example,

Volume 13, Number 1: February 2012
ISSN: 1535-0975

librarianship, writing studies, and other

disciplines.

By using the visual representation students may be familiar with from basic set theory, librarians hope to help students construct appropriately broad or narrow searches. Natural language searching may be resulting in a decrease in the teaching of Venn diagrams in information literacy teaching, but in many undergraduate information literacy sessions, librarians still teach the students how to use "and," "or," and "not" to appropriately focus Boolean searches.

In recent years, librarians have become more aware of another type of graphic representation, the concept map; some database vendors such as Credo and Ebsco promote it as helpful in invention or for visual learners. Google has introduced the Wonder Wheel tool as a concept map for its own searches. When students search a term in the database, the concept map breaks the term down into its component parts to allow them to visualize both the relationship of these parts to each other and the possibilities for specialization within the topic. Compositionists have been using the concept map for invention for some time; students are invited to begin with an idea they wish to write about and then to branch out to connected concepts, perspectives, and situations. In this way, each of the two disciplines has appropriated a similar tool for slightly different purposes. Although librarians have tended to suggest that the concept map will help in facilitating topic narrowing and compositionists

Volume 13, Number 1: February 2012
ISSN: 1535-0975

have tended to highlight it as an aid in invention, faculty in either area could reverse or remix the traditional uses while still keeping the map. The concept map serves a different function than the Venn diagram; the Venn diagram attempts to illustrate set theory, commonalities, overlap, and uniqueness, while the concept map shows relationships, tangents, and possible connections. Both, however, attempt to visually portray ideas as "territories" which may share borders or even overlap with related idea-territories.

The second type of place metaphor relating to information literacy is "shelter," in the sense of an enclosed place, with connotations of protection and support. In the traditional model of information literacy instruction, once students have located their sources, the role of guide passes to the writing instructor, who assists the students in making a place-* for incorporation of the ideas which they have gleaned from the source into their own writing. That is, the instructor deals with space within the essay. How much of the source can the student incorporate without committing the act of plagiarism? How should citations be formatted and inserted into the document? Should students use footnotes or endnotes? These practical questions hover on the surface, sometimes obscuring deeper questions relating to the students' positioning of ideas in their own thinking. Will the stronger sources eclipse the student's own work? Will the student's own preconceived bias serve to crowd out any real interaction with the sources?

If we back up a step, however, we find that in classical rhetoric, sources have a strong connection to place even earlier in the writing process. The word for "places" in Greek is *topoi;* Aristotle suggests using these "places" (i.e. *topoi*) to find the best available means of persuasion. In fact, the word "commonplace" became associated with rhetoric via Aristotle's division of the *topoi* into "common" and "special." Thus, one searched for lines of argument in "places" with which one was familiar; skill in rhetoric involved easy familiarity with many such places. For example, Aristotle lists such *topoi* as: possible and impossible; whether

Volume 13, Number 1: February 2012
ISSN: 1535-0975

something has happened; what is to be; size and smallness; and greater and lesser (Aristotle Ch. 2.19). Each of these has possible sub-topics, for example, "Of that whose end is possible, so is the beginning," and "If a thing can come about without skill and preparation, then it is all the more possible through skill and elaboration" (Ch. 2.19). Aristotle also uses this term for the description of certain forms or types of arguments; in this way, one would find a "place"—today we might call it a "stance"—from which to address the opponent's arguments ("Aristotle's Rhetoric" 7). We can think of *topoi,* then, as places where we might find the ground firm enough to construct a solid foundation for our argument. Foundation is essential for any shelter, and the stronger the foundation, the stronger the resulting structure. A solid knowledge of the rhetorical *topoi* used to be considered essential for beginning rhetoric students; that kind of rote learning has largely disappeared, but an introduction to the most effective lines of argument, including argument from authoritative sources, should still be a part of the writing curriculum.

Topoi are linked in Aristotle with enthymemes, which have been defined variously as either syllogisms with a proposition missing, or as syllogisms treating probability rather than certainty. Aristotle's "available means" often involved arguments which, while convincing, are not or cannot be proven with certainty. Aristotle gave examples of how to suit the persuasion to the audience, as when old men and young men would be swayed by different lines of reasoning (cf. 2.12–2.13). Even with the addition of audience consideration that Aristotle demonstrates here, the idea of "looking" in certain "places" in order to convince certain audiences demonstrates the relation of topoi and enthymemes. Especially as they relate to building ethos, sources resemble *topoi* in the sense that the choice to identify with a given source and its author's authority will vary based on context. As a very specific example, in this essay written for the discipline of composition, I cite the writings of librarians as

Volume 13, Number 1: February 2012
ISSN: 1535-0975

sources, but I also very consciously cite rhet/comp sources and authors, for fear that my own authority will be questioned if I fail to choose the proper authority for the context.

Another occasion for the use of place in rhetoric is through the rhetorical canon of memory. Popularized by the Roman orators, the concept of the treasure-house of memory suggests that rhetors associate a place in a building or neighborhood with the item that they wish to recall. By mentally retracing the path through the building, the orators "find" the points of the argument where they "left" them. This application of the place-memory link relates directly to the actual performance of a speech, but the Romans developed the early techniques of mnemonics relating to any subject around this metaphor (Bergmann). As professionals and researchers, we have learned to develop similar memory connections, but with new tools for recall. We store a few of the most recent or most influential sources in our own memory. We may use a citation help such as Zotero or Refworks to store more. Before computers, researchers had files and note cards. All of these, in a way, help to construct our contemporary version of the house of memory, developed as a result of writing, that memory-defeater that Plato distrusted. While we have, we must admit, in some ways substituted the house of memory, in which we reside, for the toolbox of memory, which is outside of ourselves, and at our disposal, we still inhabit that primary home. Without our own memories to send us in the right direction, we would not know where in our toolboxes to begin to look. Our students, however, mostly begin their college careers with few or none of these files—of any type—at their own disposal.

Even literal, physical places feature prominently in our thinking about information literacy. Teaching information literacy often involves a change of place; either the class goes to the library, or the librarian "invades" the normally private classroom. This disruption signals to the students that something out-of-the-ordinary is taking place. The students must wonder why their instructor is yielding her place to an interloper. Does the instructor not

Volume 13, Number 1: February 2012
ISSN: 1535-0975

know how to do research in her own discipline? Librarians often meet with this same objection from the instructors themselves, who wonder why they need a librarian to teach their classes something as simple and obvious as finding sources for a research paper. On the other hand, librarians rely on instructors' generosity with classroom space and time because they normally do not have a curriculum devoted to the library; thus "borrowing" a class is the only way they can impart their own disciplinary knowledge to the students. Recently, librarians have begun to push into the compositionists "territory." Writing centers in the library and even run by librarians are becoming more and more frequent. Librarians with second Masters' degrees in English proliferate among the adjunct ranks.

Librarians, frankly, are on the run. Prognosticators have predicted the demise of the library for a few decades now, but at no time have these promises loomed more gloomily than in these days of ebooks for the first time outselling print books and newspapers going out of business every week. Part of the librarians' interest in composition may result from a desire to stave off their profession's slow decline. Rather than viewing this sharing of space as trespassing or infringement, however, both the instructor and the librarian would be better served to consciously model for the students the cross-disciplinary hospitality that can enrich their own scholarship. Compositionists can welcome librarians' technical fluency and broad knowledge of the universe of information sources; librarians must embrace the rhetorical know-how of the compositionists who demonstrate their value to the academy in part by teaching students the discourse conventions they will need to navigate the cyber-discourse they will engage in for the rest of their professional lives.

Although in the end, both disciplines' aim is to produce skilful writers, each discipline is also using information as a battleground in the fight for disciplinary survival. Composition still struggles to solidify its footing away from the mother-discipline of English, but librarianship is fighting for its life. Not only are librarians searching for their own territory

Volume 13, Number 1: February 2012
ISSN: 1535-0975

upon which to build a solid stance, they desperately need shelter from the forces that seek to destroy the discipline, and they have been searching for it in the idea of information literacy.

Implications

Inevitably, such theoretical musings as these lead to the "so what" question. What implications for teaching are suggested by thinking of sources as *topoi?* Many librarians have had encounters with students who have written papers and *then* come to a librarian for help with adding sources—as the last step in the writing process. When a student comes to the librarian's office with a complete paper and asks for three sources since the paper is due today, the student has not grasped the rhetorical purpose of research for writing. In fact, if students see the paper as one portion of the assignment and the sources as another, with little connection between them, this would probably come as absolutely no surprise to either the librarian or the composition instructor. Perhaps we even reinforce this belief when the composition instructor teaches the "paper" and the librarian teaches the "sources." Sources do not merely decorate a paper; without key sources, the student often cannot effectively advance an argument, nor does the student really learn how to present and interact with others' points of view.

When Aristotle defined rhetoric as "finding the best available means of persuasion," one of the means that he certainly had in mind was the array of *topoi*. I wonder how it might change our teaching if we introduced to our students a place-memory approach to writing. When presented with a rhetorical situation, the student would mentally move through the rooms of the house she, her instructor, and her classmates had "constructed" during her rhetorical apprenticeship in the composition classroom. Each mnemonic room would "contain" an important tool for constructing the argument; in several of these rooms, the tool

Volume 13, Number 1: February 2012
ISSN: 1535-0975

would relate to the use of sources. For example, in one room, the source might provide expert verification of the author's beliefs. In another, a source might provide an example for a point the author is trying to make, and in yet another, a source might serve as a foil or counter-argument. When Aristotle recommends that the rhetor find the best of the available means of persuasion, he intends that orators would already have some knowledge of the tools at their disposal. If students enter the university without these tools, one of the first tasks of the writing instructor and the librarian should be to show the student what they are and how to use them. In the metaphor of the treasure-house, the introductory composition class could build a cabin (i.e. explore a few tools), and second-semester composition could add on several rooms, in addition to reviewing and reinforcing the use of the tools in the rooms of the original cabin. Further academic writing, including writing in the disciplines, would repeat these steps recursively.

This metaphor of building with a foundation and rooms brings out an aspect of information literacy instruction that we often fail to address because in so many cases it is a given. The fact that librarians are usually given one class session does not allow enough time for the concrete in the foundation to set; perhaps this pushes the metaphor too far, but building is a gradual and deliberate process. Imagine a librarian with a second Master's degree in Religion who teaches a class in Biblical Hermeneutics which involves using language sources to develop a word study research paper. Because of her double role as both professor and librarian, she builds information literacy into her lesson plans, taking her class to the library and instructing them there several times during the semester. This would be done when necessary or helpful for the class's current projects, not just once during the semester. Perhaps this approach does more for the students in terms of both content learning and learning the research process than the traditional one-shot, taught by an unfamiliar person, often in an unfamiliar place, for a reason which may not have been made clear—or may have

Volume 13, Number 1: February 2012
ISSN: 1535-0975

been because the professor wished to attend a conference that day. Of course, not every librarian has a second subject Master's, but many do. If there is no one with such a joint disciplinary background, many schools are experimenting with the idea of an embedded librarian, one who comes to the class for many or all class sessions, making herself available for team teaching and for assistance in working with sources on an as-needed basis.

In addition to needing familiarity with the various rhetorical *topoi* relating to sources, university students need to build knowledge, both disciplinary and general. While professors and researchers have spent years reading in their disciplines, the students have not. Many of them have not yet chosen a disciplinary home, nor do they yet have an extensive knowledge of general information to build upon. Might we spend some class time in conversations about what it means to be building disciplinary knowledge, to practice sharing (others') research with one another, and to introduce citation software that students could maintain after the semester ended? Even if there were conversations about disciplines that students did not choose as major areas of study, they would gain an introduction to those disciplines. By sharing research with the class, students would learn how to read and summarize research more advanced than they are capable of doing themselves; by "teaching" it to their classmates, they would reinforce their knowledge of it, and the class would end up with a diverse sampling of research they had been acquainted with.

Rather than attempting to teach the students the vagaries of MLA, APA, or Turabian, only to have them realize later that they will need to master another citation style for their discipline of choice, giving each of them an account to citation software which would be theirs throughout their university career would allow them to begin to build up a library of sources which would begin to serve as foundations of disciplinary knowledge. Once students settle in to a discipline, having a wide selection of sources that they have already familiarized

Volume 13, Number 1: February 2012
ISSN: 1535-0975

themselves with will give them a strong starting point for further, deeper research as upperclassmen.

The teaching of rhetorical appeals should also involve the incorporation of sources. We often refer to using sources as a means of providing evidence for the logical appeal (*logos*). Once students are experienced with finding sources for this purpose, we can move on to sources that might help with the emotional (*pathos*) appeal to the audience—a well-chosen narrative example will often help the argument to register with the audience on a deeper emotional level and will remain in their memories for a longer time. Finally, sources can also add to the writer's *ethos*; citing the "correct" sources and experts demonstrates some time spent with and knowledge of the topic, and showing that a well-respected figure in the field supports the writer's argument gives her reasoning additional ethical force.

Earlier I mentioned cross-disciplinary hospitality, in terms of welcoming those from other disciplines into our classrooms. Modeling this within the class, even in a general education class, will demonstrate for students that other disciplines' approaches to issues can be not only viable, but helpful and insightful. Demonstrating an interdisciplinary conversation for them can show how different vocabularies access issues from different, yet equally valuable, problem-solving methodologies. While this kind of conversation might naturally begin between writing instructor and librarian, it does not have to end there. Bringing a librarian, a compositionist, an ethicist, and a sociologist together to update a class on their disciplines' latest research in a topic like plagiarism would exemplify the contribution to solving this problem that each discipline can make. While an interdisciplinary conversation about sources in research would be a great place to start, it could lead to interdisciplinary encounters on other writing topics and even on various other issues relevant to the class.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

The simple Google search will continue to be a chief competitor to deeper information literacy knowledge, though, until student culture relaxes its demand for immediate gratification. As long as some professors are willing to accept poor sources, students will continue to try to get away with citing them. As long as students can get a quick "A" on a paper without really learning about a topic, we are fighting an uphill battle. The key is to build desire for increased knowledge. Any website can serve as a source, but fewer can really teach the student about the subject at hand—and then only if the student will take the time to linger there and read. As librarians and compositionists continue to work together to send students in search of knowledge instead of in search of "three sources," the references that the students cite may improve.

This exploration of the disciplinary issues of information literacy has only raised some questions; much research by both librarians and compositionists remains to be done by those involved with Project Information Literacy, The Citation Project, and independent researchers. If both the library and the writing instructor send the same message to students to use sources as *topoi*, students can begin to build a strong foundation of knowledge both inside and outside of their chosen disciplines. They can learn to structure their arguments based on the best available rhetorical tools. Lastly, they can begin to familiarize themselves with important voices in their disciplines in their roles as speakers within the disciplinary discourse, rather than as meaningless names in a bibliography tacked on to the end of a paper that contains merely that student's opinion.

Volume 13, Number 1: February 2012
ISSN: 1535-0975

References

Abowitz, Deborah A. "Developing Awareness and Use of Library Resources in Undergraduate Sociology: A Sample Assignment." *Teaching Sociology* 22.1 (1994): 58-64. Print.

Aristotle. *The Art of Rhetoric*. Trans. H.C. Lawson-Tancred. London: Penguin, 1991. Print. Penguin Classics.

"Aristotle's Rhetoric." *Stanford Encyclopedia of Philosophy*. 2010. Web. 21 Dec. 2010.

Bergmann, Bettina. "The Roman House as Memory Theater: The House of the Tragic Poet in Pompeii." *The Art Bulletin* 76.2 (1994): 225-256. Print.

Bivens-Tatum, Wayne. "Timing of the Research Question - Academic Librarian." *Academic Librarian: On Libraries, Rhetoric, Poetry, History, & Moral Philosophy*. Blog. 30 Nov. 2010. Web. 24 Dec. 2010.

Bizup, Joseph. "BEAM: A Rhetorical Vocabulary for Teaching Research-Based Writing." *Rhetoric Review* 27.1 (2008): 72-86. Print.

D'Angelo, Barbara, and Barry Maid. "Information Literacy and Rhetoric and Writing: A Review of the Literature." Knol. 2009. Web. 5 Jan. 2011.

Elmborg, James K. "Information Literacy and Writing Across the Curriculum: Sharing the Vision." *Reference Services Review* 31.1 (2003): 68-80. Print.

Fister, Barbara. "Teaching the Rhetorical Dimensions of Research." *Research Strategies* 11.4 (1993): 211-219. Print.

Gilton, Donna L. “Information Literacy Instruction: A History in Context.” Web. 28 May 2011.

Holliday, Wendy, and Britt Fagerheim. “Integrating Information Literacy with a Sequenced English Composition Curriculum.” *portal: Libraries and the Academy* 6.2 (2006): 169-184. Print.

“Information Literacy in Rhetoric & Composition Studies.” *ACRL: Association of College & Research Libraries*. Wiki. 30 Apr. 2010. Print.

Jacobs, Heidi LM, and Dale Jacobs. “Transforming the One-Shot Library Session into Pedagogical Collaboration: Information Literacy and the English Composition Class.” *Reference & User Services Quarterly* 49.1 (2009): 72-82. Print.

Jamieson, Sandra, and Rebecca Moore Howard. “Unraveling the Citation Trail.” *Project Information Literacy: A Large-Scale Study About Early Adults and Their Research Habits*. 15 Sept. 2011.

Lakoff, George, and Mark Johnson. *Metaphors We Live By*. Chicago: Univ. of Chicago Pr., 2003. Print.

Larson, Richard L. “The ‘Research Paper’ in the Writing Course: A Non-Form of Writing.” *College English* 44.8 (1982): 811-816. Print.

Lupton, Mandy. “Evidence, Argument and Social Responsibility: First-year Students’ Experiences of Information Literacy when Researching an Essay.” *Higher Education Research & Development* 27.4 (2008): 399-414. Print.

Norgaard, Rolf. "Writing Information Literacy: Contributions to a Concept." *Reference & User Services Quarterly* 43.2 (2003): 124-130. Print.

Nutefall, Jennifer E., and Phyllis Mentzell Ryder. "The Timing of the Research Question: First-Year Writing Faculty and Instruction Librarians' Differing Perspectives." *portal: Libraries and the Academy* 10.4 (2010): 437-449. Print.

Wardle, Elizabeth. "Understanding 'Transfer' from FYC: Preliminary Results of a Longitudinal Study." *Writing Program Administration* 31.1/2 (2007): 65-85. Print.