

**SOCIAL MEDIA**

**Teacher Learning**

Edited by:

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and

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## Introduction

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The past twenty-five years have seen more changes to schools and education since these became systemized and formalized in Canada more than 150 years ago. Technological developments, increased globalization, and changing demographics have all, in part, contributed to these changes. All societies look to this triumvirate as a set of circumstances that influence the education of its citizens.

In the early 1980's, when standalone computers entered schools, most had 32 K of memory with tape storage limiting what students and teachers could do with computers. In the early 2010's, computers in schools have capabilities to view videos, access the Internet, run sophisticated application software, all of which has influenced what students do with computers in schools. Many more applications are available today that extend how and where students learn and teachers teach.

Many people communicate with each other in ways significantly different from the early '80's. The term "social media" was coined to refer to communication turning to interactive dialogues using web-based and mobile technologies. Social media "is a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content" (Kaplan & Haenlein, 2010, p. 61). Often "social media" has been limited to association with publishing or broadcasting, but Sherman (2010) suggests that a wider, more accurate depiction is needed; she includes many different forms: weblogs, wikis, podcasts, video, social bookmarking sharing, cloud working, content rating, image sharing, blogs, RSS Feeds, widgets, social networks, social worlds, photographs or pictures, micro blogging. Kaplan and Haenlein identified different types of social media: collaborative projects (e.g. Wikipedia), blogs and micro blogs (e.g., Twitter), content communities (e.g., YouTube), social networking sites (e.g., Facebook), virtual game worlds (e.g., World of Warcraft), and virtual social worlds (e.g., Second Life).

Most educators see value in using some aspects of social media forms and types as part of their curricular program for students but these educators are grappling also with the use of social media in their classes. School boards struggle with the appropriate permissions and restrictions to apply to student behaviour regarding the application of social media in schools. This value of and need for appropriate use of social media brought the Ontario Teachers' Federation and the Ontario Association of Deans of Education together to jointly-sponsor a conference that focuses on the use and impact of social media in education and learning.

*Social Media and Teacher Learning* is concerned with social media as associated with student engagement, teacher learning, teaching practice, equity, and school systems. The papers and presentations compiled in this special e-book are included in these subthemes.

The papers presented herein are invited submissions from a refereed conference, Social Media and Teacher Learning held February 3, 4 2012, and organized in this edited e-book. All conference submissions were reviewed by Lindy Amato (OTF), Jim Greenlaw (UOIT), Alice Pitt (York University), Serge Demers (Laurentian University), Anne Rodrigue (ETFO), Claudine

Laporte (AEFO), Wendy Hirschegger (OSSTF), and Susan Perry (OECTA). All chapters in this e-book were reviewed by the editorial team.

The Social Media and Teacher Learning Conference received significant support from the University of Ontario Institute of Technology which provided the technology to broadcast the conference virtually. Other partners for the conference included Association des enseignantes et des enseignants franco-ontariens (AEFO), Elementary Teachers Federation of Ontario (ETFO), Ontario English Catholic Teachers Association (OECTA), and Ontario Secondary School Teachers Association (OSSTF).

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# **Virtual Classroom Tours as an Interactive Online Professional Resource for Elementary Teachers and Administrators**

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## **Abstract**

The Internet is an increasingly rich source of information for teachers and school administrators. Much of the information available online involves passive modes of engagement – reading of articles and lesson plans and viewing of videos – to inform educational practice. Virtual classroom visits, based on virtual tour technology, represent a novel interactive online resource that allows users to move about freely, exploring classroom details, viewing video clips of expert teachers explaining and demonstrating effective educational practices, and accessing selected student work samples and related materials. This study examined the use of this interactive resource by participants who varied in age, teaching experience, professional roles, and engagement in social media such as Facebook and blogs. Participants explored a virtual classroom and, as they navigated, each visual step was captured and analyzed using the computer software program Cam Studio. The results showed that educators, regardless of age and years of professional experience, are accessing the Internet and interactive social forums for professional use on a regular basis. Findings also indicated that virtual classroom visits were viewed as extremely beneficial for pre-service and in-service teachers, support staff and administrators, inspiring change and providing opportunities for knowledge sharing of best practices through discussion forums.

## **Introduction**

This qualitative study explores the utility of virtual classroom tours, online simulations of existing classrooms, for practicing teachers and elementary school administrators. Virtual classroom tours allow website users to explore exemplary classrooms interactively, to view video clips of expert teachers explaining and demonstrating effective educational practices, and to see selected student work samples, charts and other materials of interest. Virtual tour technology provides interested viewers with access to information and experiences that may not otherwise be available to them. Although the use of virtual tours is common in tourism and real estate, it has not yet been used in education as a professional development tool.

While online tools and educational websites for teachers often entice interested readers with engaging content, they present content-area concepts in primarily static, text-based environments (Coiro & Fogleman, 2011). Although some web-based features may also incorporate clip art, photographs, or videos, few opportunities are available to interact with features other than by reading or viewing information (Coiro & Fogleman, 2011). Assessing the functioning and motivational impact of a virtual classroom as an interactive professional learning tool will help researchers, school administrators and teachers better understand the factors that motivate teachers to participate in web-based professional development. This study seeks to examine the usefulness of virtual classrooms as a professional development tool for classroom teachers and elementary school administrators.

## **Online Teacher Learning**

Traditional professional development opportunities typically involve after school in-service sessions, full-day workshops or content-specific conferences. These professional development efforts are not always a feasible solution in terms of enhancing teacher practice due to time constraints, lack of funding and the fact that they are often based on volunteer participation (Bannon-Ritland, 2002). It has been noted that after school workshops and conferences have not been as effective as first hoped (Duncan-Howell, 2010). Online learning and web-based professional resources offer a potential alternative to the traditional in-service teacher learning opportunities that is not constrained by time and can be accessed at the teacher's convenience.

As online professional resources for teachers become more readily available through the Internet, teachers are able to access websites of interest and participate according to their own schedule. The Internet offers a promising professional development alternative that could facilitate teacher learning. Recent research has indicated that the mode of delivering effective and high-quality professional development opportunities must consider teachers' perceptions of professional learning activities as well as their motivation to participate (Duncan-Howell, 2010; Opfer & Pedder, 2011). Many teachers in fact do hold positive attitudes towards using the Internet for their professional development (Charalambousa & Ioannou, 2011). As a self-directed source of information and materials related to their work, teachers are generally interested in using the Internet to facilitate their learning and enhance their teaching practice. While it is known that online catalogues of teaching and learning materials, lesson plans and educational software are often sought out by elementary teachers (Charalambousa & Ioannou, 2011), there have been few studies examining teachers' perceptions of effective and high-quality web-based literacy resources and specific website features.

## **Web-based Learning Tools**

Web-based learning tools, also known as Internet technologies, include, but are not limited to, video clips, audio conferencing, instant messaging and blogging. These technologies are increasingly accessible and extremely popular for online learning in university courses, communication in the corporate sector and, as previously mentioned, tourism and real estate. The functionality and usability of mainly communication web-based tools (e.g., Blackboard) have been examined and received positive remarks by their users (Weller, Pegler, & Mason, 2005). While web-based tools have received some attention, little research has been done on the effectiveness of web-based tools, specifically virtual classrooms, as a professional learning resource for practicing teachers (Storey, Phillips, Maczewski, & Wang, 2002).

The effectiveness of online learning depends on the quality, accessibility and convenience of the web-based tools. The presentation design, interaction usability and accessibility are important to consider in the instructional design of web-based tools (Nesbit & Li, 2004). Storey et al. (2002) analyzed the usefulness and effectiveness of online communication tools by university students and concluded that feedback from the "real users is important input into further tool improvement" (p. 6). It was found that users of web-based tools viewed these tools positively if they were convenient, applicable and easy to use. While studies have examined the usefulness of mainly communication Internet technologies, they have focused on online courses offered at the university level. The motivational impact of specific web-based tools on elementary teachers' learning has had little attention.

Investigating Internet technologies, specifically virtual classrooms, for their potential as educational tools for practicing teachers will provide feedback directly from the users. This, in turn, will offer website developers authentic data on which to base improvements. Similarly, feedback will benefit policy makers and administrators of professional development. The present study will guide effective dissemination of research-based Internet technologies to practicing elementary teachers and school administrators.

### **Research Objectives & Questions**

The aim of this research was to investigate the use of virtual classroom tours as professional resources for practicing teachers and elementary school administrators as well as examine attitudes and opinions of teachers and administrators about using the Internet for professional learning and literacy programming.

The proposed study addresses the following questions:

1. How do practicing teachers and school administrators use the virtual classroom tour?
2. How are individual characteristics of teachers and administrators related to their use of the virtual classroom tour (e.g., self-efficacy related to technology, motivation, etc.)?
3. What do teachers and administrators find most beneficial about using the virtual classroom tour as a professional resource?
4. In terms of utility and convenience, what would teachers and administrators add to or change in the virtual classroom tour?
5. How might school administrators and literacy leaders/coaches utilize the virtual classroom tour for staff professional development sessions; or disseminate information about teaching using the virtual classroom tour?

### **Research Methodology**

#### **Participants**

Eight practicing elementary school teachers ranging in age from 25-55 (M=40 years) and three elementary school administrators ranging in age from 40-55 (M=46 years) volunteered to participate in this study. All participants were employed with a district school board in Ontario. Current grades taught by the primary teachers ranged from junior kindergarten to grade six. The school administrators included an elementary school principal, a vice-principal and a literacy coach. Years of teaching experience ranged from 1 to 24 years (M=11 years). Years of administrator experience ranged from two to eight years (M=4 years).

#### **Data Collection**

Observations were conducted individually and occurred at a computer terminal with access to a Beta Version of a grade two virtual classroom. Instructions were provided to the participants informing them on the use of the virtual classroom tour. Participants (n=11) were directed to arrows located at the bottom of the virtual tour that would allow the tour to automatically move right or left around the classroom in a 360 degree panoramic view. Participants were also directed to the zooming feature, represented by plus and minus symbols. This feature enabled participants to zoom in to view details of the classroom and program materials. To manoeuvre themselves around the virtual classroom, participants were shown how to use the mouse to manually control what they wanted to view in the classroom as well as the direction (right, left, up or down) in which they chose to go. Finally, participants were directed to red and green dots that represented "hot spots". Participants were informed that the red dots

or red “hot spots” were videos of the teacher explaining and demonstrating teaching practices and the green dots were photos showing close ups of children’s work, charts and other materials of interest posted on the walls or placed throughout the classroom.

The participants were asked to explore the virtual classroom for 10 minutes. Each visual step made by the participants was captured using the computer software program Cam Studio. Following the 10-minutes of observation, a one-on-one interview was conducted and recorded with each participant. The interview included questions concerning the appeal, convenience, effectiveness and future use of the virtual classroom tour as a professional learning tool.

Questions related to teacher practice, literacy professional development as well as Internet use and technology were also asked and included open-ended questions (e.g., What features of the virtual classroom did you find to be the most beneficial?), closed-ended questions (e.g., Have you used an online virtual tour before?) and rating scales (e.g., How comfortable are you with using social networking websites?). Administrators spoke about their role in providing teachers with professional resources in literacy as well as meaningful staff development sessions and professional learning communities. Following the interviews, demographic questionnaires were administered in order to discern any connections between the use of the virtual classroom tour and participants personal characteristics. Teachers and administrators completed separate questionnaires.

### **Research Findings**

#### **Teacher practice and professional learning**

**Internet use, technology, and social media.** All of the participants indicated that they accessed the Internet on a regular basis and that they owned a desktop computer. Ten participants (91%) also indicated that they owned a laptop computer. When asked how they utilize the Internet, all of the teacher participants (n=8) indicated that they research literacy activities to incorporate into their program but less than half (n=3, 37.5%) of the teacher participants indicated using the Internet to research classroom set-up. Compared with other available professional resources, including print materials, participants reported on how often they access the Internet as a professional resource (Tables 1 and 2). These findings appear to be supported by Schofield and Davidson’s findings (2000). More than half of the participants in their study reported using the Internet for planning lessons once per week. These findings emphasize the importance of the availability of online professional resources for practicing teachers and elementary school administrators. It can be suggested that with greater availability of meaningful online literacy-based resources, including information for classroom set-up, teachers will continue to spend time accessing the Internet for professional purposes.

Table 1. Internet use by teacher participants (n=8).

Internet Use	0% of time	25-50% of time	50-75% of time	>75% of time
		n (%)		
Classroom set-up	5 (62.5)	2 (25)	1 (12.5)	0
Literacy planning	0	3 (37.5)	4 (50)	1 (12.5)

Table 2. Internet use by school administrators (n=3).

Internet Use	0% of time	25-50% of time n (%)	50-75% of time	>75% of time
Staff development sessions	0	0	1 (33)	2 (66)

On a four-point scale (not comfortable at all to very comfortable) the majority of participants (n=8, 73%) reported that they felt very comfortable using the Internet while the remaining participants felt somewhat comfortable (n=3, 27%) using the Internet. Most participants also indicated that they felt moderately comfortable accessing social media websites, including YouTube and Facebook for personal and professional purposes.

In terms of frequency, the majority of participants reported that they use the Internet for professional purposes on a regular basis (Table 3). This indicates that teachers and administrators may be more comfortable using online technologies than they may have been ten years ago. While there was only a small difference in comfort level amongst the participants whose ages ranged from 45-55+, the majority of participants who indicated their ages as ranging from 40-55+ felt very comfortable using the Internet for professional purposes. In fact out of eight participants who indicated their ages being between 40-55+, six (75%) reported feeling very comfortable using the Internet. This suggests that teachers and school administrators, regardless of age and years of experience, are accessing the Internet on a regular basis for professional purposes.

Table 3. Frequency of Internet use for professional purposes (n=11).

More than once per day	Once per day	At least once per week	Once per month
27% (n=3)	18% (n=2)	36% (n=4)	18% (n=2)

Participants were asked to comment on the education websites which they most often frequent. They generally indicated that access to videos and pictures of the lessons were noted as being the most favourable feature of these websites. They also found these websites to be user-friendly and practical. Much of the information on these websites could be easily and conveniently implemented in their own classroom or school. One administrator participant also indicated that the websites which she most often frequents were easy to use, direct, and included user-friendly language. When asked which online technologies or web-based tools participants most often utilized while exploring educational websites, all of the participants accessed videos of lessons in action or explanations by the expert teacher or school administrator. A summary of the website tools the participants utilize when exploring educational websites is provided in Table 4. Both video clips of teachers explaining activities and videos of teachers in action were reported as being the most beneficial web-based tool that the participants used indicating the importance for educational websites to include videos and photos of relevant material.

Table 4. Website tools utilized by participants (n=11).

Video Clips	Photographs	Blogs	Chats	Discussion Boards
100% (n=11)	91% (n=10)	18% (n=2)	9% (n=1)	27% (n=3)

Participants also indicated social media websites which they most often frequent for personal and professional purposes. YouTube was found to be the most popular social media website to access for both purposes. This finding indicates that all of the participants utilize video clips for professional purposes and the need and importance of providing teachers with access to meaningful educational YouTube channels and high quality videos of teachers engaging students in exemplary activities and lessons. Almost 100% of participants further agreed that they would use social media websites for the sharing and receiving of educational information in the future.

When participants were asked how they share and receive information related to educational resources, word of mouth, professional learning communities and email were rated highest. In terms of receiving information about educational resources, participants indicated professional learning communities and email as the most effective and efficient.

### **Defining Virtual Tours**

All of the participants in the present study were familiar with the term ‘virtual tour’ prior to viewing the virtual classroom tour. Out of the eleven participants, six (55%) had previously accessed a virtual tour on a real estate website while seven (66%) had previously used a virtual tour on a website designed for tourism. None of the participants had previously viewed a virtual classroom tour nor were they aware that this web-based tool currently exists on any educational website with which they were familiar.

While all participants were very positive about having access to online virtual tours through mostly real estate and tourism websites, the ability to actually interact with the tour and manoeuvre oneself within the site was limited to non-existent. Many participants felt that if a website provides its users with access to this technology, it should in fact include a component that allows for greater interaction and manipulation. So, what constitutes a virtual tour? Can a website incorporate this feature if it only is in fact a series of video clips or a presentation of a 360 degree panoramic view of the environment with a limited look above or below the horizon line? To be defined as a virtual tour, should it include an interactive component? All of the participants in this study agreed that the ability for the viewer to manipulate the direction, control the zooming function as well as be given the option of choosing video clips or photos at their own convenience is an extremely beneficial and highly attractive feature to the website user.

### **Exploring the Virtual Classroom Tour**

#### **General feelings.**

Overall, the teacher and administrator participants were very positive about the virtual classroom tour. Participants enjoyed dissecting the classroom bit by bit and comparing it to their own classrooms and schools without time constraints or travel limitations. Meaningful and applicable information was attained by the participants. They enjoyed manipulating the tour themselves and selecting hot spots of personal interest. Many participants noted that exploring the virtual classroom tour was like visiting a classroom without having to be physically in the environment. It was noted by some participants that viewing the physical space of the classroom was extremely beneficial and put the viewer in an authentic context. When asked to describe a virtual tour, many participants included a reference to the accessibility and usability, including the possibilities of interaction and control. A possible definition of an optimal virtual tour is based on participant feedback from this study and a basic search of existing virtual tours. A virtual tour is an online simulation of an existing area, allowing website users to explore the

environment interactively, to view video clips of defining features, and to see photos of selected materials of interest at their own control and convenience.

### **Video hot spots.**

The video hot spots were the most popular feature, with all participants commenting on the benefits of personally selecting a video that describes an area or activity which they viewed within the virtual classroom. Participants agreed that the length of the video was appropriate and that it provided meaningful information from the perspective of the expert teacher. Of the 14 video hot spots, participants viewed an average of seven videos during their ten-minute exploration of the virtual classroom tour, with one participant viewing nine video hot spots. Five out of the eleven participants viewed the entire video 100% of the time while all of the participants viewed at least half of the video before returning to the virtual tour. The videos also made the experience personal and realistic. In isolation, photos in books and on websites often limit the viewer's perception. Explanations may be necessary to provide the reader or viewer with the background information related to the photo. The combination of video and photo hot spots was highly regarded by all participants. Overall, participants agreed that the video hot spots provided precise explanations of the selected activity, were thorough in their delivery and of high quality and interest.

### **Photo hot spots.**

Participants generally felt that the photos were of high quality and provided the viewer with an effective visual component. The possibility of viewing a photo that connected to a video hot spot provides the viewer with details of the material and is directly linked to the activity. This aspect was noted to be of interest to teacher participants who wished to apply selected materials to their own classroom planning and literacy programming. Of the 23 photo hot spots, participants viewed an average of 6 photos during their ten-minute exploration of the virtual classroom tour, with one participant viewing 13 photo hot spots. When located near a video hot spot on the same topic, participants were likely also to view the photo suggesting that the participants found the photos to be a beneficial secondary component to the videos. One participant commented on the fact that her ability to choose and view the details of classroom and teacher-made materials referred to in the video was very beneficial. If implementing an activity viewed on a video hot spot into her classroom, she would view the photos to help her with creating the necessary materials.

### **Zoom function.**

During the ten-minute exploration the zoom function was used an average of 2 times, with one participant using the zoom function a total of 7 times. Many of the participants noted that this feature was a very positive contribution to the virtual classroom. Being able to view teacher-made or student created materials on the wall at a closer range provided the participants with multiple perspectives within the virtual tour. Two participants viewed an entire wall after zooming in providing them with a closer range in which to view the classroom materials.

### **Automatic pan versus viewer control.**

The option of navigating through the virtual classroom was noted as a very beneficial and important feature. Many participants felt that viewer control made the experience a more personal one. It was also noted that being able to manoeuvre oneself through the tour was a

novel feature. Participants had little to no experience using this technology prior to viewing the virtual classroom. One participant noted that this was her first experience with an interactive tool and that she would like to see more.

### **Features to consider.**

During the interviews participants were asked about features they wished to explore. Teacher and administrator participants noted a number of features that would benefit viewers as well as the tool in terms of supporting teacher practice and literacy programming. A few participants noted that including background information about the teacher as well as the school would provide the viewer with a more personal experience. Participants also indicated the future benefits of accessing an interactive forum where questions to the virtual teacher could be addressed and information related to activities viewed in the virtual classroom could be shared. All of the suggestions are highly regarded with respect to the development, design, accessibility and usability of the virtual classroom tour. Receiving feedback directly from the future users of this tool provides the developers with significant information and is supported by Storey et al.'s (2002) conclusions that feedback from the "real users is important input into further tool improvement" (p. 6).

### **Benefits.**

All of the participants felt that the virtual classroom tour could benefit a new teacher and an experienced teacher as a professional resource to which to view and research literacy activities and exemplary classrooms. When asked how the virtual classroom could benefit a classroom teacher, administrator responses varied slightly from responses given by the teacher participants. Teacher participants commented on the fact that new teachers are often overwhelmed with their initial planning and classroom set-up. Similarly, a new teacher entering a school for the first time might feel uncomfortable approaching a colleague with questions related to classroom set-up and programming. The findings of Kauffman, Johnson, Kardos, Liu, and Pesks (2002) indicated that new teachers often are overwhelmed by the responsibility and demands of planning daily lessons and activities. The new teachers in their study reported searching the Internet, eavesdropping on conversations to discover what other teachers did and scouring the library shelves for relevant background reading (Kauffman et al., 2002). Kauffman et al. (2002) concluded that new teachers must be provided with a basic set of instructional structures, strategies, and materials so that they can refine their own teaching style and respond effectively to the varied needs of their students. Viewing a variety of virtual classroom tours may ease the pressure that a new and less experienced teacher might feel when entering his/her first teaching job. All of the administrator participants discussed how they, as administrators, would introduce the virtual classroom to a new teacher during a mentoring session. One administrator participant noted that this tool would be a "good icebreaker" between the administrator and new teacher. The tool could be introduced as a suggestion rather than something that would be mandated by the school or school board, viewed by both and discussed in terms of what it offers.

All of the participants were practicing or former classroom teachers. Although their years of teaching experience varied, they all enthusiastically agreed that when publicly available, they would all access and use the virtual classroom tour on a regular basis. Many of the participants noted that experienced teachers are often looking for new ideas to incorporate into their teaching practices. The virtual classroom tour offers experienced teachers exemplary classrooms and

activities to which they can refer at their own time and convenience. One participant noted that the virtual classroom tour is an exciting and interactive tool that provides users with meaningful and research-based ideas to run a classroom effectively. When constrained by time and scheduling during the day, experienced classroom teachers often leave their planning until the evening when they are at home. Many participants noted that the more convenient, accessible and user-friendly a web-based tool or website is the more likely it will be consistently utilized. Current website tools that teachers and administrators access often require a username, password or membership fee. Although these websites are often viewed as including rich and meaningful resources, membership log-in numbers are seen as a barrier. One administrator participant indicated that the simple fact of having to log in to a website often prevents the consistent use of the website or online technology. Although teachers may initially be eager to use a new online resource, it was noted by the administrators that unless convenient, applicable and explicit, teachers often revert to their familiar resources and teaching practices.

### **Potential uses.**

All of the participants felt that the virtual classroom tour could potentially be used for staff development sessions, pre-service teacher programs, new teacher induction programs as well as other professional development opportunities. Most participants were particularly enthusiastic when speaking about the future use of the virtual classroom tour. Administrator participants suggested particular ideas with respect to staff development sessions including introducing the virtual classroom tour to learning teams at the beginning of the school year. Showing learning teams or grade groups virtual classrooms that would coincide with their own grade would potentially lead to further investigations, knowledge sharing and professional learning opportunities. For example, learning teams or professional learning groups could potentially treat the exploration of the virtual classroom in a similar fashion to a book group or book study, referring to the sessions as a “web study”. Teachers could possibly plan to focus on an area for further investigation, a particular hot spot to try in their own classroom or an approach to setting up their classroom viewed in the tour. Returning to the virtual tour as a group throughout the term, critiquing the components and reflecting on their own teacher practice could potentially provide an opportunity for a teacher learning critical pathway, a series of professional learning in-service sessions or an inquiry project.

Overall, teachers and administrators were very eager to share their ideas about how the virtual classroom tour might be used. The suggestions offered by the participants have a direct implication to the development of this web-based tool. As previously stated, direct feedback from the user is optimal for the ongoing development of the technology.

## **Discussion**

### **Overview of Major Findings**

As online resources become more accessible, user-friendly and include meaningful and research-based materials, teachers and school administrators are more willing to explore the Internet in order to view and access professional resources. It is essential that relevant and research-based materials continue to be accessible to teachers and school administrators in order that they receive meaningful information which they can incorporate into their teaching practices. As Martin, Strother, Beglau, Bates, Reitzes, and Culp (2010) suggested, high-quality

professional development leads to improved teacher knowledge, which directly leads to higher student achievement.

Based on the findings from the present study, the virtual classroom tour appears to offer classroom teachers and elementary school administrators a high-quality literacy-based professional resource. When exploring the virtual classroom viewers gain access to the physical space of an exemplary classroom, research-based literacy activities, expert teachers and relevant professional resources. The virtual classroom tour offers an authentic online learning context containing rich ideas for literacy programming and classroom design. It contains many features which users can explore, including video and photo hot spots, zooming functions, and viewer manipulation, and can be described as an engaging, interactive high quality professional technology.

### **Limitations and Future Research Directions**

This exploratory study is a first attempt at examining how practicing elementary teachers and administrators utilize virtual classrooms using virtual tour technology. Although research exists on how teachers are using the Internet for professional purposes, the use of specific educational Internet technologies by practicing teachers has received little to no attention. While this study offers contributions to technology in educational literature, limitations of this study should be noted.

Although the numbers were small, for the purposes of this exploratory study, the sample size can offer some insights into the use of the Internet and virtual classrooms. All participants felt extremely positive about using the features offered by the virtual classroom tour. The viewers used all of these features when exploring the tour with the option to conveniently choose features of personal interest. A future study involving the use of the virtual classroom by a larger sample size over given period of time as well as by pre-service teachers will offer valuable information.

The screen capture recording of the participants' exploration of the virtual classroom offered valuable findings in terms of how the technology was being utilized. However, when analyzing the recordings, information about why participants were selecting particular features was not apparent. Future research studies involving participant feedback on the explorations through think-aloud procedures will also be tremendously beneficial.

### **Conclusions**

Online learning and web-based professional resources provide an alternative to traditional text-based material or in-service workshops and can be accessed at the teacher's convenience. High quality web-based teacher resources are generally described as being user-friendly and easily accessible. They often contain videos of the expert teacher explaining the lesson or engaging with students as well as relevant material and information related to activities of interest. Findings from the present study indicate teachers and administrators, regardless of age and years of professional experience, are accessing the Internet for professional use on a regularly basis. With increased demands during the day, many teachers prefer to utilize their time online in the most efficient and effective way possible. The virtual classroom tour offers effective lessons within an exemplary teaching environment, without the need for travel or making arrangements for a classroom visit. Generally, teachers are motivated to seek out new resources after school hours and tend to incorporate relevant and engaging strategies offered by these resources into their teaching practices. As indicated by Charalambousa and Ioannou's

(2011) findings, the Internet is viewed by primary teachers as an effective educational tool and source of professional information. Based on the participant feedback from the present study, the virtual classroom tour is an innovative literacy tool, engaging online users in a new and exciting way. The ability to interact with the tool and conveniently choose materials of interest provides a personal approach to accessing teacher resources.

The research findings show that the virtual classroom tour offers a number of benefits for new and experienced teachers. Accessing useful classroom tips, new ideas, exemplary classrooms and research-based materials were just a few of the benefits to which participants referred. With respect to the tool's usability, viewers felt that this innovative technology could inspire change in teacher practice. According to the viewers' feedback, navigating through the tour and personally selecting hot spots and other areas of interest appears to be an extremely beneficial feature.

Storey et al. (2002) indicate that direct feedback from the users is an important input into further tool improvement. The results from the present study will be further analyzed by the virtual classroom tour designers and taken into account when considering the design and availability of new features within the tour. A goal of the virtual classroom tour is to provide teachers and administrators with ongoing access to high-quality and research-based material, free of membership fees and personal identification numbers. When provided with the opportunity to receive feedback and authentic data from the 'real users' the website developers are able to make improvements to online learning tools, including the virtual classroom tour. Similarly, the participant feedback from the present student may benefit policy makers and administrators of professional development by providing them with factors that appear to motivate teachers to make changes in their practice. Furthermore, a future study investigating the use of the virtual classroom tour by a larger sample of participants may contribute to the ongoing development of this resource as a professional online technology.

Muirhead (2009) noted that sharing knowledge and best practices enables teachers to become motivated to incorporate new teaching techniques into their program. The benefits of teacher-directed learning allows for greater engagement and the possibility of creating meaningful learning opportunities for themselves and their students. Through the virtual classroom tour, school administrators are able to show their staffs successful and working models of exemplary classrooms and literacy programs.

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## **YouTube as a Source of Information about Reading Instruction**

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### **Abstract**

Although the use of video in education has long been of interest to researchers and educators (Brophy, 2008; Derry, 2007). YouTube has transformed the ways that video can be created, shared and used for educational purposes. Interest in the possibility of using YouTube for teacher education is stirring in areas such as medical education (Akagi, 2008; Clifton & Moon, 2011), but many other areas such as reading instruction remain unexplored, despite the proliferation of relevant videos on these topics (searching term “teaching reading” retrieves over 1200 videos). The results of this on-going project provide a preliminary content analysis (see MacMillan, 2000) of 40 of the most viewed YouTube videos that relate to reading instruction. In addition to presenting descriptive data on the purpose, format, length, and other characteristics of these videos, the content of these clips will be compared to five components of effective reading instruction identified by the U.S. National Reading Panel meta-analysis (National Institute of Child Health and Human Development, 2006). Results indicate that content related to evidence-based reading instruction is available, but that gaps exist. Discussion focuses on how teacher educators, teachers, professionals, and other stakeholders can use YouTube as a source of learning or as a platform for disseminating knowledge about reading instruction.

### **Introduction**

Teaching children to read is an essential goal of our education system, and research continues to provide insight into the components of effective reading instruction. One particularly influential study on how to teach reading was conducted by the National Reading Panel (National Institute of Child Health and Human Development, 2000). This extensive meta-analysis reviewed thousands of scientific studies and identified several research-supported components of teaching reading, often referred to as “the Big Five”: phonemic awareness, phonics, fluency, vocabulary, and comprehension.

Although much is known about how to teach reading, there is often a disconnect between research and practice. Research suggests that teacher education has not “caught up” with existing knowledge, and that teachers are not adequately prepared to teach reading effectively, especially to struggling readers (Cunningham, Perry, Stanovich & Stanovich, 2004; Bos, Mather, Dickson, Podhajski & Chard, 2001; Spear-Swerling, Brucker & Alfano, 2004; Washburn, Malatesha, & Binks, 2010). Given this research-to-practice gap, finding efficient and effective ways for teachers to access high quality, evidence-based information about how to teach reading is an important goal, especially given the impact that teachers’ knowledge may have on students’ learning (e.g., Piasta, Connor, Fishman, & Morrison, 2009).

In the past, those interested in furthering their learning about effective reading instruction have had options such as taking courses, watching videos or television programs, learning from

mentors or colleagues, figuring things out “by trial and error”, or reading articles or books. However, in recent years, the Internet has rapidly risen as a preferred medium for sharing and accessing knowledge. One of the emerging features of the Internet has been its ability to support live streaming video. Streaming video allows users to view Internet videos in “real time”, with the possibility of stopping or starting the video at any point. This medium may be particularly effective as a learning tool, given that it combines the convenience of instant, user-controlled, interactive access to content with the benefits that video may have as a medium for communicating information in a rich and engaging manner (Hartsell & Yuen, 2006; Shepard, 2003).

A new era for streaming video dawned in February 2005 with the registration of the site “YouTube” (YouTube Timeline, 2012b). YouTube is a website that was created to allow people to easily upload their own streaming video content and share it with anyone. In addition to being a video hosting site, YouTube can also be considered a social media platform where users can communicate with one another to build collective knowledge. Users can comment on videos, share them with others, and express opinions on videos by adding them to personal favourites lists or providing optional feedback about whether they “like” or “dislike” video content.

YouTube offers a unique venue for researchers, practitioners, and members of the public to upload and/or view a variety of videos. With millions of videos currently hosted on YouTube, users can post, find, and discuss videos on overarching topics such as “Non-Profits and Activism”, “Science and Technology”, and “Education”. YouTube’s extreme popularity is evidenced by the fact that it currently receives over 3 billion views per day. As well, 48 hours of video are uploaded every minute by users from all walks of life (YouTube Statistics, 2012a).

Given the popularity and functionality of YouTube and its widespread uses for a variety of purposes, interest in its utility and relevance to the broad field of education has recently begun to develop. However, despite this emerging interest in areas such as nursing and medical education (Akagi, 2008; Clifton & Mann, 2011), when this study was conducted no research could be identified that considered the use of YouTube as a means for sharing and accessing information about reading instruction.

The purpose of the current study was to explore the nature of YouTube as a source of information about teaching reading by examining freely accessible video content. Specifically, the following research questions were developed:

1. Are people using YouTube to access information about reading instruction?
2. What kind of content would the average user find when searching for information about reading instruction?
3. Who is creating this content and why?
4. What is the focus of the content that is available? Is there content that reflects the evidence-based components of teaching reading identified by the National Reading Panel?

A secondary purpose of this study was to add to the literature that considers how YouTube may be used for educational purposes, and to provide insight to researchers and practitioners who wish to use YouTube to access or share information about teaching reading.

## **Methods**

In order to analyze the content that would be found by an average user searching for information about teaching reading, keyword research (Copy Blogger Media, n.d.) was conducted. The goal of this research was to determine what search terms were most frequently used to find videos about reading instruction. To do this, it was first necessary to come up with

several possible keywords that might be used to find information about teaching reading. 2-word keywords were used, since they carried more specificity than 1-word terms (such as “reading” or “lessons”). These keywords were then entered into the Google Insights for Search web tool (Google, 2012b). The Top Searches feature was used to generate additional popular search terms based on the terms that were entered. Any 2-word term that was relevant to reading instruction was added to the overall list of possible keywords.

Once the list of possible search terms was created, the next step was to determine which of these keywords an average user would be most likely to type into YouTube. When this study was conducted, there was no web tool that made it possible to determine the popularity of different YouTube search terms. In lieu of this, the Google Ad Words Keyword tool was used to provide an estimate of the average number of times per month a particular keyword or phrase was typed into Google search (Google, 2012a). Essentially, this tool provided a general estimation of the popularity of each search term. Table 1 provides the results of this search, the first 5 chosen keywords and all related 2-word keywords generated by Google Insights. Beside the keywords is the average number of monthly searches for the exact search term listed as provided by Google Ad Words.

Table 1. Average Number of Monthly Searches per Chosen Keyword, Google Ad Words

<b>Keyword</b>	<b>Average # of Searches Per Month</b>
reading lesson	480
reading lessons	1 000
teaching reading	4 400
reading instruction	590
reading strategies	18 100
reading education	260
reading teacher	1 600
reading resources	880

The information collected about the frequency of use of each search term helped choose a term that an “average” user might type into YouTube to look for videos about teaching reading. The search term “teaching reading” was eventually chosen; it seemed both appropriate and popular.

The term “teaching reading” was then typed into the YouTube search engine and information about the first 40 videos generated by this search was systematically recorded. These 40 videos were those generated by YouTube’s “relevance” formula, the specifics of which are kept secret (Codex-M, 2012). It is possible to sort YouTube results by other “filters” (e.g., by how many people have viewed the videos), however, most users would probably not use this kind of function. It was therefore assumed that the first 40 videos generated for this study were those that would be seen by an average user.

Videos were first viewed to determine if they discussed a topic relevant to reading instruction. For relevant videos, a variety of information was recorded, including the number of times the video had been viewed, the length, the format of the video, and who was in the video. This information was recorded over the first two weeks of January 2012.

Each video format was categorized using labels that were generated inductively. The six derived labels were audiovisual, talking head, classroom demonstration, talking head and classroom demonstration, taped lecture, or other. Audiovisual meant no person visible in the video, but audio and/or video elements (e.g., commentary, slideshow) were used. Talking head videos were those in which one person presented their opinion on a topic. Classroom demonstration videos were those that featured a teacher and students engaged in an activity. Videos were considered to be taped lectures as those of a recording of a live presentation. Videos were categorized as “other” if they did not fit into any of the previous categories.

An attempt was also made to determine who was in the videos. Any person who was acting in the role of “teacher” was coded as such (this sometimes included people whose primary position was as a tutor, “literacy specialist” or other similar position). If a person in the video explicitly made note that they were a professor or had a PhD, they were considered a “professor”. Other possible labels were “students” and “parent”. The apparent gender and race of adults featured in the videos was also coded to give a general picture of who was being represented. The race of the adults in the videos was coded as either “White”, “Black”, or “Asian”, broad categories that were determined by induction.

Determinations about who created the video were made by reviewing the beginning and ending of the video and the text associated with the video (title, description, tags, channel name, etc.) to identify whether there was an obvious organization sponsoring the video. Sponsoring organizations were then coded as for profit or not for profit. The name of the channel host (which often corresponded to the sponsoring organization) was also noted.

Finally, the main focus of each video was described briefly. Videos were evaluated as to whether or not they explicitly mentioned research. As well, videos were categorized based on if they contained references to one of the “big five” areas promoted by the National Reading Panel as elements of effective reading instruction (phonemic awareness, phonics, vocabulary, fluency, comprehension). Videos were considered to have an “explicit” focus on a research-based area of reading instruction if they clearly mentioned or promoted an area (even if they called it by another name). For example, a video called “Reading Comprehension Strategies” that addressed this topic in some fashion would be coded as having explicit relevance to an NRP area, as would a video that addressed teaching letter-sounds (in other words, phonics). However, if a video discussed a topic related to one of the five areas but did not mention the area specifically (for example, if the students were shown making predictions about a book, but the video did not explicitly mention that predicting was a comprehension strategy) then this video would be coded as having implicit relevance to an NRP area.

## **Results**

Of the first 40 videos generated when searching YouTube for “teaching reading”, 39 of them were clearly relevant to reading instruction. Only one video was excluded because it discussed teaching reading in Spanish. The data that follow are for the 39 relevant videos.

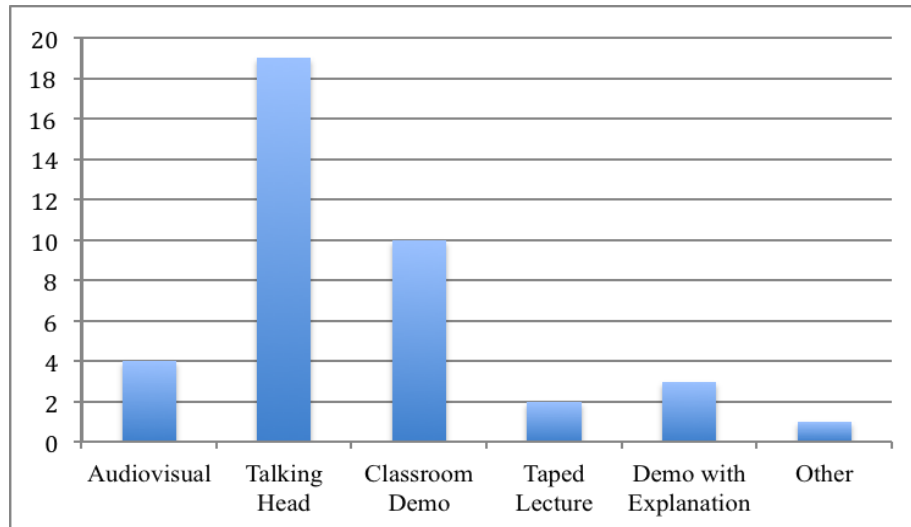
### **Video views**

The number of views each video had was not normally distributed, with a skewness of 3.61 ( $SE = .38$ ) and kurtosis of 15.59 ( $SE = .74$ ). The median number of views was 4,160, with a minimum of 370 views and a maximum of 74,275 views. Combined, all 39 videos received a total of 546,211 views.

### Video format

The format of the different videos is displayed in Figure 1. A variety of video formats were present, and almost half of them (13) included a classroom demonstration.

Figure 1. Number of Videos within Each Video Format.



### Video length

The lengths of the videos were also not normally distributed, with skewness of 3.80 ( $SE = .38$ ) and kurtosis of 14.99 ( $SE = .74$ ). This reflected the fact that almost all videos were under 11 minutes, with only two longer (45 minutes and 58 minutes, respectively).

### Video participants

Of the videos that featured people (all those but the audiovisual videos), the majority of those represented were classroom teachers ( $n = 18$ ) or teachers and students ( $n = 13$ ). Four videos featured professors and one was made by a parent. Adults depicted in the videos were overwhelmingly white (the exceptions were one video featuring professors from India and one video featuring a Black woman) and 77% were female.

### Video creators

Almost all videos had an explicit sponsor, either in the description/channel name (31%) or the video itself (54%). Of these sponsors, the vast majority were profit-making organizations or parties attempting to promote a product or service. In total, 67% of the videos were clearly created by a for-profit enterprise. Channels that had more than one video represented were eHow (7 videos), Expert Village (4 videos), SRA Publishing (4 videos), Heinemann Publishing (3 videos), and Bonnie Terry Reading Products (3).

### Video content

The videos were filed under different content categories by their uploaders. Most videos were filed under the category “Education” ( $n = 28$ ), however, there were 10 videos categorized as “How to & Style”, and 1 video classified as “Entertainment”. A comparison of video content to the 5 areas of evidence-based reading instruction identified by the National Reading Panel

revealed that 46% of the videos addressed one of these areas. 28% explicitly mentioned one of the areas in their video title, description, or in the content of the video of itself, while in 18% the focus was implicit. Of the videos that addressed areas of the NRP, 11 videos addressed teaching reading comprehension strategies, 5 addressed phonics, 1 addressed phonemic awareness and 1 addressed fluency. Of the videos that did not address components of the NRP, there were a variety of content foci. Some were general opinion videos, for example, presenting the idea that using poetry helps to teach reading to young children. Others addressed broader topics or approaches to teaching reading, for example, how to use guided reading, using “whole brain” teaching, or tips for working with students for whom English is a second language. Although many videos addressed research-based components of teaching reading identified by the National Reading Panel, only 2 videos explicitly cited research studies or referred to research in their video.

### **Discussion**

Overall, the results of this study indicated that the average user could find a variety of relevant videos on YouTube that relate to reading instruction, given that a simple search of the term “teaching reading” retrieved a long list of relevant videos. The 39 videos explored in this study had received a combined total of over 500,000 views, suggesting that YouTube is a source of information about reading instruction that has been accessed quite widely. This number grows daily and only hints at the overall amount of traffic that reading-related videos may be garnering on YouTube. Thousands of other videos on reading instruction likely exist, and these may be viewed very frequently. Therefore, serious consideration of YouTube as a platform for both finding and disseminating information about reading instruction seems warranted.

In terms of the types of clips available, most were short videos (under 10 minutes) using a format of either “expert” commentary or classroom demonstrations. As such, it seems logical to suggest that many of these videos were intended, at least in part, to “teach” the viewer about some aspect of reading instruction. Although several videos featured professors, most clips featured real classroom teachers and other literacy practitioners. These practitioners were often either sharing their personal wisdom or knowledge about reading instruction or providing demonstrations of how to use particular teaching strategies. The abundance of this kind of content in this sample suggests that YouTube might be a valuable source of videos for teachers wanting to learn more about particular aspects of reading instruction or for educators who wish to find relevant information or demonstrations to include in their presentations.

An important question this study attempted to address was who was responsible for posting YouTube videos and what their intentions were. In this sample, most videos featured white people and appeared to have been filmed in a North American context. This is interesting, especially given that over 70% of YouTube viewers come from outside the United States. In addition to being white, most of the teachers featured in the videos were female. Given that the percentage of women featured in the videos corresponds with the number of women teachers in Canada (about 70%; Stats Canada, 2005), this may indicate that the people posting videos on YouTube are representative of educators in the North America population at large.

Although most videos strongly gave the impression of having an educational purpose, a very large proportion of them were sponsored by profit-making companies or organizations promoting products or services. Tellingly, 28% of the videos were hosted by either eHow or Expert Village which are two subsidiaries of Demand Media, a company that makes money by mass-developing content that corresponds to popular searches in order to draw searchers to paid

advertisements (see Roth, 2009). Another 18% of the videos were uploaded to channels created by McGraw Hill Educational Publishing and Heinemann Publishing. These videos featured approaches or materials found in books or programs published by the company (e.g., Reading Mastery, Lucy Calkin's writing program). These interesting findings call into question the true purpose of these videos: were they primarily created to give users accurate and helpful information or to make money? While some of these videos may have quality content, it is important to note that they have been created by people or organizations whose primary goal is to make a profit. This is especially concerning when one takes into account that the profit-making interests of the parties uploading these videos are often subtle and may be overlooked by the average user, potentially skewing their perception about the opinions expressed in the videos.

This study was only able to provide the basis for inferences about the uploaders who post YouTube content on reading instruction and what their objectives are. A fruitful possibility for future research would be to further explore these issues. Are most YouTube videos on reading instruction filmed in a North American context? Why? Is the profit-driven purpose of the organizations uploading the videos explored in this study representative of most of the content on YouTube? Are there people or organizations uploading videos for the purpose of education as opposed to profit making? What characteristics do these uploaders have (e.g. are they from non-profit organizations; are they teachers with a passion for reading; are they researchers attempting to disseminate their findings)? These questions may be answered by sampling a wider range of YouTube content and/or going directly to the source of the content and collecting information via surveys or interviews.

Despite there being questions about the intentions of parties who are uploading videos about reading instruction, an encouraging finding of this study was that almost half of the 39 videos addressed a focus consistent with one of the five areas of evidence-based reading instruction outlined by the National Reading Panel (although this focus was implicit in some videos). This indicates that YouTube may be a potentially valuable source of information about evidence-based reading instruction. However, only two videos explicitly mentioned evidence in their video or referred their viewers to reliable sources of information. Although videos may have addressed overall topics that corresponded to some of what is known about how to teach reading, this does not necessarily mean that they gave accurate information about these topics or explained strategies that have been supported by research. As such, though videos that loosely correspond to evidence exist, further analysis is required to determine the accuracy and quality of the information presented in these videos.

Interestingly, although there may be YouTube videos that address all five areas of evidence-based reading instruction promoted by the National Reading Panel, the results of this study indicated that the average user searching for information about reading instruction would probably not be exposed to this breadth. How uploaders categorize their content may have a major influence on this. For example, although there are an extensive number of YouTube videos on phonics (a search retrieves over 20,000 results, most of which appear relevant), the users who upload these videos may not include the term "reading" anywhere in their title, tags, or description. This means that a search for "teaching reading" would be unlikely to retrieve many phonics videos.

However, the fact that the current study found that certain areas of evidence-based reading instruction were better represented on the list of videos than others may reflect more than just how content is organized. For example, by far the area of evidence-based reading instruction with the most videos in this study was reading comprehension. As mentioned above, this may be

partially because the word “reading” is usually in the title, tags, or description of videos about comprehension. However, this may also be because this is a more widely known topic, a topic of greater interest to classroom teachers, a topic that average users are more likely to feel knowledgeable about, etc. Indeed, with the exclusion of phonics, a YouTube search for the specific term “reading comprehension” retrieved 3,730 videos, much more than searches for “phonemic awareness” (710 videos), “reading fluency” (440 videos), or “reading vocabulary” (239 videos). This suggests that reading comprehension is an area of evidence-based reading instruction more widely represented on YouTube, a finding that may be further elaborated on with future research. This finding also hints at the possibility that analyzing YouTube content or people’s use of YouTube may help to provide insight into about what is known and unknown about reading instruction within a wide population of people.

Overall the results of this study have provided a starting point for considering how YouTube might function as a source of information about reading instruction. Conducting the study also led to several interesting insights that may be useful to those who wish to use YouTube as a platform for learning about reading instruction or disseminating knowledge. Suggestions for both groups are provided in Figure 2.

Figure 2. Tips for Using YouTube to Access and Disseminate Information About Reading.

<p><i>Tips for those searching YouTube for information about reading instruction:</i></p> <ul style="list-style-type: none"> <li>• Familiarize yourself with the features of YouTube (e.g. what channels are, how to “favourite” videos)</li> <li>• Recognize that because of the way YouTube content is organized, it may be better used as a place to look up information on already-known topics rather than to gain general knowledge about the components of effective reading instruction</li> <li>• Maximize how you search for content by being aware of how information is organized on YouTube <ul style="list-style-type: none"> <li>○ Try a variety of search terms and make use of search tools such as quotation marks to help refine your search <ul style="list-style-type: none"> <li>▪ For example, if you want to find information about teaching predicting as a comprehension strategy, try “reading comprehension strategies”, “making predictions”, “+predicting +comprehension”, etc.</li> </ul> </li> </ul> </li> <li>• Recognize that YouTube content may not necessarily reflect the most up-to-date knowledge about how to teach reading effectively</li> <li>• Be aware of who is posting YouTube videos and be a critical consumer of content</li> </ul> <p><i>Tips for those who wish to use YouTube as a platform for disseminating information about reading instruction:</i></p> <ul style="list-style-type: none"> <li>• Familiarize yourself with the features and set up of YouTube (most importantly, how content is organized and accessed)</li> <li>• Make a channel to create a cohesive online presence, organize your content, and help users find your videos</li> <li>• Consider the needs and interests of your audience and conduct some research to find out how users are searching for information about your topic (e.g. what keywords are they using?)</li> <li>• Use your title, tags, and description strategically to help people find your content</li> </ul>
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- Design videos with your audience in mind
  - Although this study did not specifically address this issue, it may be helpful to consider things like: Would my viewers prefer a classroom demonstration or “expert” opinion? How long should my video be to maintain the attention of my viewers?
- Provide support for the reliability of your content by adding links to research.

This study marks only the beginning of an understanding of the role that user-generated online video content might play in the future of education. It provides a window into some of the issues involved in conducted research on social media tools as well as providing a preliminary investigation of the kind of YouTube content available that relates to reading instruction. Although further research is needed to explore the value of YouTube as a source of information about teaching reading, its unique capabilities and frequent use suggest that it is an important platform to consider as we move into a new era of information sharing on the Internet.

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## **Re/mediating Social Justice Education: Using On-Line Digital Animation Software to Foster Pre-Service Student Engagement with Equity Issues**

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### **Abstract**

This paper, a self-study (Bullough & Pinnegar, 2001), explores our experiences designing and teaching a pre-service course that critically engages teacher candidates in discussions of equity, diversity and social justice. A persisting challenge in this work involves navigating teacher candidate resistance and inviting exploration of their own positionality in a context where existing racial ideologies, and their corollary white privilege, dominate.

There is limited research on how web-based digital technology can facilitate the consolidation and discussion of difficult knowledge. Our study explores the process, impact and potential of incorporating social media animation software such as *XtraNormal*. In particular, we explore the power of interactive internal and external dialogue.

Building on critical pedagogic research in teacher education and diversity (such as Milner, 2010), we consider Freire's dialogic approach (1970) as we unpack our observations and discussions as 'critical friends' (Crowe & Whitlock, 1999). We identify and consider three key areas/features of text-to-movie software that enabled students to work in unique ways with challenging course content: 1) the possibilities of pseudonymity; 2) the dialogical process; 3) pedagogical potential and praxis.

### **Introduction**

As instructors in pre-service education, we are full of optimism. With every new cohort of teacher candidates (TCs) comes the prospect of engaging them in conversations about what it means to be transformative educators (Boler & Zembylas, 2003; Nagda & Gurin, 2007). We strive to immerse our candidates in knowledge construction that is informed by critical pedagogy (Freire, 1971; Giroux, 2003; McLaren, 1995) pressing them to explore the taken-for-granted in schools by exposing dominant discourses that continue to recruit white, female, middle class representation in teacher education. Despite our optimism, a persisting challenge in this work involves navigating teacher candidate resistance and inviting exploration of their own positionality in a context where existing racial ideologies, and their corollary white privilege, dominate (McIntosh, 1990).

In this paper, we explore our experiences as Ontario university instructors designing and teaching a mandatory pre-service foundations course for primary/junior TCs. The course, "Sociocultural Perspectives on Human Development and Learning" uses a critical approach to explore how inclusive teaching strategies can help future educators resist stereotypes, prejudices, indifference and power structures that promote inequality and disadvantage students and teachers alike. We consider the course and our efforts to work toward social justice goals through our use

of Web 2.0 learning technologies. We see the importance of new technologies in light of the shifting demographics of our students, most of whom can be described as “digital natives”. Our self-study explores our experiences and observations regarding the process, impact and potential of incorporating social media animation software such as *Xtranormal* into our course and focusing on the power of interactive internal and external dialogue.

## **Literature**

### **Connecting with our student demographic:**

#### **The ‘digital native’ student and animation software**

The label “digital natives” or the “Net generation” has been loosely applied to the demographic of students born after 1980 (Prensky, 2001). It is assumed, sometimes erroneously so, that digital natives have been immersed in information and communication technology (ICT) and are actively engaged with social media and advanced in their abilities to use and navigate the web. As such they may demand greater inclusion of ICT in their coursework (Bennett, Maton & Kervin, 2008). While we do not offer a response to the 'digital natives' debate, we do suggest that the rapidly growing and emerging Web 2.0 tools may offer new ways of working with difficult knowledge and provide additional opportunities for dialogue and student engagement.

There is a small but growing literature on the use of animation software in classroom settings to foster student engagement with general course content (Monaco & Martin, 2007; Mandernach & Taylor, 2011). This literature is beginning to appreciate how interactive applications, readily accessible on the Internet, can help students deal with course material and improve learning. However, very little research has explored how interactive web-based applications can be used to help students engage with difficult and sensitive issues around race, racism, and equity. For the purpose of this paper, we examine one Web 2.0 tool, Xtranormal movies ([www.xtranormal.com](http://www.xtranormal.com)). Xtranormal is a free<sup>1</sup> text-to-movie software whereby the user creates either a monologue or a dialogue between two characters. Mandernach and Taylor (2011) suggest that in an educational setting, XtraNormal movies can be used as a "tool for conveying basic information in a manner that is more entertaining and memorable than basic written text" (p. 223). We suggest that the technology, coupled with a critical discourse, has the potential to move beyond basic information sharing and entertainment to a place of transformative pedagogy.

### **Contextualizing social justice education:**

#### **Engaging difference and diversity among teacher candidates**

Numerous researchers (see Ladson-Billings, 1994; Cochran-Smith, 1995; Causey, Thomas & Armento, 2000) have examined the ways in which teacher education programs can better prepare the dominant group to work with diverse students in the classroom. A critical and direct approach to equity education is particularly vital in the Canadian context, in which the dominant group forms the majority of the teaching force (Ryan, Pollock & Antonelli, 2009). In addition, as Schulte (2008) argues, not only is the K-12 teaching force fairly homogeneous, so are the faculty who prepare them. Milner (2010), drawing from Eisner’s (1994) concept of the “null curriculum”, suggests that by not addressing or critically examining existing power structures at

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<sup>1</sup> Upon obtaining a membership, an individual is given 300 XtraNormal Points [fictional currency] which is enough to produce a short [3-5minute] movie using basic backgrounds and characters. Purchasing or obtaining additional points is possible and produce more sophisticated movies.

play in elementary and secondary schools, pre-service teachers are learning, by default, that these are not issues that should be addressed in schools. As Milner (2010) argues,

Teachers are learning something based on the absence of certain material. For example, if teachers are not taught to question or critically examine power structures, the teachers are learning something – that it may not be essential for them to critique power structures in the world in order to change them (pp. 120-121).

As we prepared for teaching the course, we asked ourselves, in what ways do prevailing ideologies of whiteness permeate and inform teaching practices in elementary and secondary schools as well as in the preparation of teachers at the university? Central to our practice and goals is an understanding that unequal power relations must be examined, critiqued, and understood within their social sphere and in relation to the way people and groups act and respond the way they do. McIntosh (1990) argues that “whites are taught to think of their lives as morally neutral, normative, and average, and also ideal, so that when we work to benefit others, this is seen as work that will allow “them” to be more like “us” (p. 31). In the white privilege argument, whites benefit from an often unexamined set of ideologies, social and institutional arrangements that seemingly have nothing to do with race. As Picower (2009) argues, “Whiteness remains masked from everyday consciousness, allowing [whites] to be blind not only to their own privileges but also to their group membership” (p. 198).

We highlight Freire’s (1970) concept of dialogic pedagogy to illustrate our work with equity issues and animation software. Freire’s understanding of dialogic education, namely that reflection, when combined with dialogue, can foster critical consciousness in students, creates opportunities for students and teachers to appreciate and understand how their experiences are positioned within oppressive social structures and power relations. By taking note of the varied perspectives of learners, and also the unequal power relations within them, Freireian critical inquiry exposes silenced and marginalized voices by allowing space, through problem posing, for new stories, experiences and perspectives to be heard within educational spaces. These perspectives are not just heard, but become opportunities to critically interrogate the power relations and contradictions within them.

We understand the importance of a dialogic pedagogy, and the practice of fostering what Nagda and Gurin (2007) call “intergroup dialogue”, as a key element in social justice education:

Intergroup dialogue builds on the traditions of diversity and social justice education but offers an innovative alternative. Diversity education aims to promote feelings of unity, tolerance, and acceptance within the existing societal structure ... Social justice education teaches students about group-based inequalities, aims to promote greater social structural equality, and prepares students for citizenship in culturally pluralistic societies. However, what is generally missing from these two approaches is an explicit focus on cross-group interactions in the classroom as a crucial nexus of learning (pp. 35-36).

Nagda and Gurin (2007) suggest that intergroup dialogue addresses some of the deficiencies in common approaches to diversity and social justice education allowing for “critical analysis and understanding of difference and dominance”, “discursive engagement across differences”, and “sustained and conjoint community building and conflict

engagement” (p. 36). Moreover, they suggest, unlike more surface engagements such as debate and discussion, intergroup dialogue can encourage deeper personalizing and contextualizing of issues, whereby students foster a deeper learning and collaborative understanding.

In what follows, we discuss how the XtraNormal software, combined with other pedagogical tools, encouraged critical dialogue and helped us in our efforts to work with teacher candidates so that they might better understand their own positionality and address issues of equity, race, and racism.

### **Situating our discussion:**

#### **Building a critical friendship and conducting a self-study**

While we both hold a doctorate in education and were both teaching the same course, we come from different perspectives, experiences, and social locations. Christine is a white woman and mother of a mixed race daughter. Her approach is informed by a practice-based understanding (12 years of teaching in elementary and middle schools), and an integrated arts philosophy. Leanne is a Black mixed-race woman whose approach is grounded in sociology of education and theoretical explorations of race and racism in postsecondary contexts, including multiracial identity. We recognize the importance of our lived experience, how it informs our pedagogy, and how this shaped our discussions and our efforts to restructure the course.

Our use of self-study as a reflective research methodology (Bean & Stevens, 2007; Beauchamp & Parsons, 2000) allows us to pose critical questions of ourselves and our practice as ‘critical friends’ (Berry & Crowe, 2009). We were able to utilize our divergent backgrounds to analyze what was working and expose the gaps we encountered (Bullough & Pinnegar, 2001; Loughran, 2007; Zeichner, 2007). Our collaboration and engagement with the professional literature as well as our interactions with our students and their feedback constitutes our engagement with self-study. We reflect on changes we made to the course, in particular our use of XtraNormal software in our pre-service class and theorize its effectiveness and limitations to deal with difficult issues and knowledge. Key to our own reflective practice within self-study was an examination of the key nodal moments (Bullough & Pinnegar, 2001) that propelled our thinking about Web 2.0 tools to address our course goals.

Having both taught the socio-cultural course multiple times<sup>2</sup>, interested in the different perspectives we were both bringing to our courses, and intrigued by the experiences we had been sharing with each other over the past year, we decided to work together to co-plan the upcoming 2010 offering of the Socio-cultural course. After reviewing our course assignments, readings and student feedback from the previous year (in the form of course evaluations and anecdotal remembrances) we wanted to press the students further to engage with race in more critical ways. We observed that many students in our classes remained disconnected from the course material and, despite our intentions and incorporation of assignments designed to explore their positionality, seemed unaware and/or unable to move far beyond their initial understanding of themselves in relation to the material. One consistent requirement in our course was that candidates write a “narrative of self”.

The first nodal moment occurred when we chose to put an article Leanne wrote (Taylor, 2000) in the course pack about Leanne's experiences growing up mixed race. TCs in Christine's

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<sup>2</sup> Christine had been teaching multiple sections of the course to both P/J and I/S teacher candidates since its inception in the B.Ed. programme in 2006. Leanne had taught several sections to the P/J candidates the previous year.

class opted to lead the class discussion on this article. The students, four white teacher candidates, met with Leanne in advance of their presentation. It was during the course of the meeting Leanne realized the TCs were not able to refer to her, in her presence as "Black". This encounter had a profound effect on the teacher candidates. Shortly thereafter, a second nodal moment occurred when Leanne found a seemingly unrelated Xtranormal clip called "One Professor's Fantasy"<sup>3</sup>. While tongue-in-cheek and not directly related to the content of our course, it shared some common challenges many faculty experience while teaching. As opposed to the content, it was the medium itself that pressed our thinking.

As we began planning for the next year's offering of the course, we started to re-imagine the narrative of self assignment by considering the potential offered by Xtranormal software. While the narrative of self assignment always encouraged the use of art, drama, poetry, music, for example, as alternative forms of expression, we also opted to structure the assignment in 2 parts, an initial narrative and a consolidating reflection adding the option to create an Xtranormal movie for either one or both parts. In the end, a few students opted to utilize the software and produced engaging pieces that forced us to look more closely at Xtranormal. We started to ask each other different questions: What does this software allow us to do differently? What happened that was different in this year's class from last year? In what ways were students engaging with sensitive issues through this software? What other possibilities might it offer if we integrated it more closely into our classes/classrooms? In what follows, we discuss our experiences using the software and our observations of teacher candidates who were, often for the first time, considering how sociocultural factors (namely racism) inform their teaching practice, curriculum, and the structures of school.

### **The Re/Mediation:**

#### **Using Xtranormal to (re)visit social justice education**

From our observations of and conversations about our practice and experiences using Xtranormal, we identified three key areas/features of text-to-movie software that enabled students (and ourselves as instructors) to work in unique ways with social justice issues and with challenging course content: 1) the possibility of anonymity/pseudonymity; 2) its dialogical process; 3) its pedagogical potential and praxis.

#### **The role of pseudonymity**

Given the challenges that often arise in classrooms where students are asked to express their identities and personal experiences, particularly those who are still thinking through and coming to understand their experiences with difficult topics, we initially ruminated that perhaps the anonymous possibilities of the software would encourage the students to explore their opinions and viewpoints. As Baggio and Beldarrain (2008) suggest in reference to cyber education, anonymity can impact the types of discussions that occur in class, the interpretations students bring forward, and the types of identities that emerge. However, through our discussions as critical friends, we began to postulate that perhaps it was not *anonymity* (as indeed, we appreciate that this is impossible since students presented the assignments to the class, as well as assessed and graded by us as instructors) but rather *pseudonymity* that the software was able to offer. Day and Batson (1995) describe pseudonymity as "a freedom to experiment with one's usual voice" (p.42). Similarly, for Chester and O'Hara (2007), pseudonymity can include "the adoption of a constructed online persona, using an assumed name

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<sup>3</sup> [www.youtube.com/watch?v=qeSdC7lbAIA](http://www.youtube.com/watch?v=qeSdC7lbAIA)

and/or image” (p. 194). We began to formulate that the role of pseudonymity seemed more significant and emerged as a key element in our observations of student engagement with the software.

One of the key features offered by this software is the option for users to not only create any character they wish<sup>4</sup>, but to speak through the characters in different ways. Students could ‘try on’ different points of view and express opinions aloud about issues they may not have felt comfortable expressing in class. Moreover, it created opportunities for TCs to present their interpretations of an issue discussed in the course as well as identify challenges, contradictions, and struggles in ways that may not surface through written assignments or in class conversations. We observed how using Xtranormal allowed students and instructors to let the characters speak for them which, in some ways, seemed to create an element of safety in not having to put their bodies ‘on the line’. We suggest that this would be significant for both white and racialized students who, for different reasons, may not feel comfortable addressing certain ideas and experiences in class in front of peers. Having an ‘alias’ in the characters helped students choose how and when information and ideas are revealed. We appreciate, as do many scholars who strive to address issues of equity and racism among teacher candidates (Boler & Zembylas, 2003; Solomon & Levine-Rasky, 2003), given that many teacher education classrooms are predominantly white spaces that reinforce the persistent denial of racism, many racialized students may avoid engaging in class conversations about race and racism.

The ability to distance one’s body from the conversation opens up a range of possibilities not only for students but also for us as instructors. Leanne’s reflections on her experience using Xtranormal were instructive for us. Leanne created a 4 minute clip that explored some of the struggles she has had negotiating ‘what are you, where are you from’ questions in all areas of her life. She created the clip as a way of (though privately at first) exploring her experiences and frustrations with people inquiring into her racial identity. After she showed the clip to some colleagues, she decided to show the movie to her class as a way of engaging them in the issues. Students had resisted engaging or critically exploring her article and story, seemingly hesitant to criticize their instructor. After Leanne showed the Xtranormal clip, students responded with enthusiasm, and seemed more eager to share similar experiences, raise questions, discuss assumptions and engage in discussion in new ways. The experience allowed Leanne to step, even for a short while, out of the ‘hot seat’ so that students could separate the issues from their instructor’s experiences. As Ladson-Billings (1996) has explained, addressing race in class is often experienced differently depending on who is leading the discussion. As she points out, White teachers (and especially males) are often seen as being “objective”, “scholarly”, and “disinterested” while Black female colleagues can be perceived as “bitter” or as “putting forth a particular political agenda” (p. 79). On some level, the use of the movie allowed certain ideas and experiences to be expressed without students becoming caught up in or distracted by their assumptions about the speaker. We suggest that the pseudonymity offered through the software creates opportunities for students to hear what is being said differently rather than hearing through the body.

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<sup>4</sup> While there may be some benefits in trying on different racialized positions through different characters (i.e. opening up opportunities for us to think about the meanings of the choices students make), we also need to keep in mind when it might be important to reveal one’s cultural/racial background and/or gender and when doing so might be counter-productive.

Finally, we suggest that when students have another option to express their opinions, experiences and understandings of the course material, we can also work to challenge the persisting and dangerous silences that can take over in classes that address issues of social justice, difference, and equity. As Shields (2004) explains the pathologies of silence:

They are misguided attempts to act justly, to display empathy, and to create democratic and optimistic educational communities. Educators often find it difficult to acknowledge difference ... because we have not learned to distinguish between recognizing difference in legitimate ways and using a single characteristic or factor as a way of labeling and consequently of essentializing others. Sometimes we are afraid of being politically incorrect or of offending those with whom we hope to enter into a relationship... it seems safer, kinder, and perhaps even the only reasonable position to pretend that children are all the same . . . that there is one race—the human race—and that differences are unimportant (p. 117).

The software provided space for TCs to explore different positions, speaking from the point of view of others. Regardless of how they represented themselves in their characters, the focus was not on them *per se*.

Overall, we are interested in the possibilities of pseudonymity in the software. For example, we ask why this tool is valuable: do students, as digital natives, already exist with a mindset where they increasingly come to expect some degree of an ‘illusion’ of digital anonymity?

### **Dialogic process**

Through our critical conversations and discussions of our experiences, we noted the importance placed on students engaging with dialogue. For example, the process of creating the movie requires that students first create a conversational script. Our focus was on the 2-character application of the software, not the monologue possibilities. Whether students are working individually or with a partner, they must create a two-sided conversation – a dialogue between two people. We appreciate, as does Shields, that dialogue is a key element in education for social justice, since it “opens each individual educator to differing realities and worldviews” (p. 116) and works to increase collective and individual understanding (but not necessarily consensus). It also, Shields offers, allows individuals to recognize the value of relational dialogue and individual difference in terms of thinking and listening. We suggest that the dialogic nature of the software created opportunities for students to do several things such as: develop their critical thinking, process the course content differently, expose assumptions and gaps in their knowledge, hear different viewpoints, and, at times, insert humour.

The power of the medium was demonstrated by a student in Christine’s section. For the Narrative of Self assignment, he wrote an initial piece in which he did not explore his race and ethnicity (he was South East Asian). His narrative also revealed challenging gender assumptions. Christine worked to press his thinking on paper in terms of exploring his racial identity and his constructions of gender and gender roles and what some of his biases might reveal about his future teaching practice. The student opted to submit his final consolidating piece using Xtranormal. In his Xtranormal movie, he went much deeper and challenged his thinking. The student used the web tool to construct a conversation between himself and another colleague in the class. He framed the conversation as if he would be having a theoretical

conversation and was able to honestly reflect, tease apart his own biases, and analyze some of his assumptions. His raw honesty had a profound effect on his colleagues as he was grappling with concepts that they had not considered as issues. With this particular example, we were able to see the importance of the text-to-speech software for a future teacher who may have never had these conversations before or who may feel a level of discomfort with difficult constructs. This may have been the first time this particular student was engaging with these ideas ‘aloud’. Even when the situation is hypothetical, candidates are forced to dialogue about issues they have not necessarily talked about before and it is the theorizing about a hypothetical conversation that might empower them to consider the impact and importance of social location and to examine their work in schools differently.

Mandernach and Taylor (2011) point out that software such as Xtranormal can be useful in fostering “increased critical thinking about the meaning and application of terminology” (p. 224) while also encouraging a collective interest among peers who interact with their movies. They also found that students, by having greater control over their own learning, tended to spend more time developing the movie. Students in our classes routinely told us how long it took them to put the movie together, but explained that they enjoyed the process and were pleased with the results. For students, the challenge (and learning) involved taking time to distil and convey the most important information into a fluid and meaningful dialogue or conversation within a limited time. Doing so allowed for a deeper understanding of not only terminology and ideas, but also the commensurate tensions and contradictions. This process is a key element in critical thinking. Through students’ movies, we were able to probe more deeply into the issues as a larger class and ask what other processes might be at work in the scenarios they created. We could also push students to discuss the movies by grounding their comments in the theoretical literature and concepts we were discussing which became more of a critique of the movie and its potential to engage with difficult knowledge than a critique of the individual’s thinking. We were able to comment on context and word choice and, we hope, move away from essentializing, although we recognize that is a danger with this genre.

Xtranormal also allowed students to see any gaps that might exist in their logic and reasoning. They could also identify where they may need more information to understand concepts as well as note where they might be making generalizations. We also saw this process as useful in helping students become more in tune with their choice of language and words. For example, in one of Leanne’s classes, students explained how they had struggled with their choice of language when making the movie and found that they were paying closer attention to the words they chose to use. Hearing their words expressed aloud made students consider how word choice might be interpreted or engaged by those who would watch the clip. They explained that they did not want to choose language (i.e., black, gay, racism) that they felt might offend others in class, but at the same time, they did not want to shy away from the issues either. The process, they explained, made them more attuned to the tensions that can arise when addressing issues of race, racism and other social injustices, and forced them to consider head-on some of their fears. They also realized that, as they struggled to choose their words, sometimes fear could be silencing in unproductive ways. We were able to take up these concerns as a class.

Focusing on dialogue creation helped students to imagine how they and others might talk to each other about their cultures, experiences, or other stereotypes, assumptions and difficulties. Given the nature of the assignment, there is the potential to unpack these issues further in class. Another element that may have informed the way students addressed course material was the capacity for students to insert humour into their discussions. The animated characters,

backdrops, gestures and computer-generated voices create a lightness that, in some ways, permits people to be creative and ‘play’ with their dialogue. However, we see this as only useful when combined with a classroom environment where we are still able challenge, discuss, and unpack the issues. As Nagda, Gurin, and Lopez (2003) remark, “an active and engaging pedagogy without a critical knowledge base may result in temporary ‘feel good’ emotions” (p. 168). Nevertheless, humour allows individuals to see that many issues can be talked about and may help demystify some of the silence and fear some experience when engaging with sensitive issues.

### **Pedagogical Implications**

One concern that often arises in teacher education classrooms, particularly discussed in relation to equity and social justice is: ‘how can I apply this to my classroom?’ or ‘what would this look like in practice?’. Often students feel paralyzed and daunted by the task that lays ahead of them, particularly as they work through their own feelings of guilt and privilege in addition to what might still feel like a lack of knowledge or ‘authority’ to talk about these issues. One of our fears is that, as teachers, they will not engage with these issues at all in their future classrooms, opting instead to present a problematic “null” curriculum (Eisner, 1994). We began to ask how the use of animation software might facilitate and impact TCs future work in schools as educators. Might they use this software with their students to explore equity issues? How do we see this tool as a way of working to address our concern about ‘application’? What we found particularly tantalizing about the software is that it allows for a more interactive element in teaching and commensurate with our earlier findings, both the potential anonymity/pseudonymity and dialogic implications are key to Xtranormal’s success.

In our work with teacher candidates through our assignments and lectures, we strive to name the social structures that result in equitable practices in our society. We work to overtly name the power imbalances and engage in critical dialogue with our teacher candidates. In many instances this means our dominant group TCs must acknowledge and recognize their own unearned privilege, a knowledge that often does not come without feelings of guilt, shame, and anger. In our efforts to challenge whiteness in teacher education, it is important for us to move our students beyond their initial emotional responses that can be debilitating. Xtranormal offers a reflective-rehearsal advantage. There is the potential to consider, reflect upon and rehearse two sides of a conversation that might occur between staff members, between a parent and teacher, or between a student and a teacher, for example. In this way, we see potential within the software to practice and model professionalism. As well, use of the software allows time to formulate ideas and thoughts and communicate them differently than one would in class with peers – but it still maintains a conversational style that is not always captured in writing. The process, we discovered, also gave students the opportunity to shift their perspectives and see the world and issues from alternate viewpoints. Of course, we also acknowledge that our students are on a continuum of cultural proficiency (Lindsey, Robins & Terrell, 1999). TCs will be at different points in their demonstration of understandings of cultural and ethnic diversity and in terms of their thinking and processing regarding race issues. Students who may have thought they were exposing inequities may have been revealing and reinforcing their own privilege. We are reminded of Thompson’s (2003) question regarding what it might look and sound like to give up the need to feel and be seen as “good” whites in relation to people of colour. Indeed, the movies themselves may permit students to keep whiteness at the centre of this work by focusing on the alleviation of their own white guilt instead of exploring what Thompson terms “fresh

possibilities of responsiveness" (p. 20). While the software may not inherently have the transformative impact, we desire it does present opportunities for teacher candidates to explore identity issues and open up space for conversation without being silenced.

As critical pedagogues, we work to prepare our students to be effective in their future classrooms, to work as change agents and to challenge injustices within the classroom and beyond. The use of Xtranormal movies is easily implemented in university classrooms and now the software is being marketed for use in schools, with the addition of historical characters, for example, to make specific ties to school curricula. By modeling critical use of the software in the academy, future teachers may be more willing and better prepared to do similar work in their own classrooms.

### **Conclusion**

Using Xtranormal, while simple to employ (in terms of tools, level of expertise required, etc.) takes time to do well. Students told us how challenging, but useful, it was for them to put together the initial dialogue required to make the movie. The process forced them to imagine what responses they might receive, how they felt about them, and how they might respond. The process (and having to envision a conversation) took time and required reflection, thought, dialogue with their peers in the class, and close consideration of the class material and class discussions. At the same time, the process of carefully crafting and formulating their ideas permitted the students to voice their viewpoints considering in what ways their words might be objectionable or spark debate. Students who might otherwise remain silent in class for fear of saying the wrong thing or having their words misinterpreted may opt to use Xtranormal software because of the potential to craft, rehearse, and choose their words carefully.

There are limitations with "free" access to the software – movies tend to be choppy; character choices are limited; and fewer backgrounds and "gestures" are available. As we have found with other pedagogical tools, there is potential for the theory to get lost in the fun. That is, the cartoon effect may encourage students to belie the seriousness of the content and mask white privilege. Without the space to critically unpack and tease apart the content, and the willingness of the creator to engage in critical discussion, much can be lost. As well, just because the tool is web-based does not mean that the students will necessarily share their movies publicly.

Xtranormal does have praxis implications as it offers a tool to help TCs professionally dialogue about difficult knowledge. By engaging in public discussion with their so-called "teacher hat" on they are afforded opportunities to explore what it sounds like to talk about the issues with prospective students, parents, and colleagues. In this way, the software might serve as preparation for anti-oppression teaching when specific attention is given to not only addressing issues of equity but also developing ways to converse with colleagues and other stakeholders. Creating situations whereby TCs can actualize anti-oppression theory and thoughts about whiteness, privilege, and equity, is paramount for transformative pedagogy. Opportunities to engage in real-life discussions are often hampered on teaching placements because of assessment and other concerns. The use of dialogic virtual media can create an opportunity for rehearsal, scripting what one might say "when and if" difficult questions and scenarios arise.

We are cognizant that this work is not necessarily transformative for everybody. Our goal is not to get all our TCs to the same point but rather, to ask them to check biases regardless of where they are. In this way, using Web 2.0 technologies helps us focus on individualized instruction that takes into account where TCs are at in their thinking and opens the prospect of moving forward, in dialogue, with one another.

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## **Policy Step Forward: Social Media in a High School**

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### **Abstract**

Student use of technology in school lags far behind their experiences outside of school (Cuban, Kirkpatrick, & Peck, 2001). From grade schools to universities, social media is transforming the education landscape across Canada (Alam & McLoughlin, 2010). Policies must be developed to delineate appropriate possibilities for doing so. Internet platforms, including social media, increasingly shape how young people connect, socialize, and learn (Ahn, 2011). Acceptable use policies for students vary among school but very few meet Conn's (2002) five standards.

### **Social Media, Schools & Policy**

Today, many school districts and administrators are racing to understand how social media can be used as a teaching and learning tool. This sense of urgency is in light of the increasing number of students using social media. When Barnes and Lescault (2011) looked at soaring social media use, they quoted a University of Massachusetts' (UofM) study that looked at long-term social media usage by college and university students. According to a 2007-2008 report, UofM found that 61% of post-secondary school respondents used at least one form of social media, regularly. A year later, 85% of college admissions offices were using at least one form of social media to communicate with students. In 2009-2010 the latter percentage rose, again, to 95%, and in the latest study (in 2011), 100% of American colleges and universities studied were using some form of social media.

Considering that social media is increasingly shaping how young people connect, socialize, and learn (Ahn, 2011), the increasing use of social media by students and schools is very relevant to scholars. Based on my ongoing research to assess existing social media policies, it appears that the majority of such policies in schools focus on safeguarding the personal, academic and professional lives of students and teachers, and, despite young people's desire to incorporate social and digital media into their education, the majority of school districts block access to such tools and technologies (Lemke, Coughlin, Garcia, Reifsneider, & Baas, 2009). Contributing to this resistance are controversies that can rise up from the use of social media technologies in schools that result in high profile legal battles for school districts (Cambron-McCabe, 2009; Verga, 2007). Examples of unwanted media coverage include a former Florida *Teacher of the Year* who was reassigned while school administrators investigated comments posted on the educator's Facebook page about same-sex marriages (Whitley, 2011), and the Massachusetts teacher who was forced to resign after posting what she thought were private comments on her Facebook page (WCVB, 2010). Given the resulting publicity that seems to befall a school, board, or district is usually of the unwanted kind, the typical reaction is to block access to new media tools (Ahn, Bivona & DiScala, 2011), all together.

While the number of social media sites and platforms has grown since the turn of the millennium, policies governing their use by teachers and students, in and out of the classroom, are still in their infancy. Things are changing so fast in the social media world that policies can't

keep up (Foxman, 2011). In this paper, I intend to highlight how this came to be, beginning with where the need for such policies arose. From there, I will look at how one high school's social media policy measures up against a set of criteria meant to assess similar policies while identifying what issues are addressed within the policy and those that are not.

Before evaluating a particular social media policy I found, allow me to offer some perspective of what it is I'm talking about by explaining what social media is, its evolution, how policies to superintend their use became our schools' responsibility, and why social media policies in primary and secondary level schools have much room to grow.

### **The Hare & the Tortoise – Social Media & School Policy**

By the dawn of the 21<sup>st</sup> century, the 'information superhighway'<sup>5</sup>, or Internet, had overtaken society as an immense source of information. Originally an asymmetrical online resource—a one-way relationship wherein users read online information, but did not contribute—the Internet, or World Wide Web, evolved to become what was coined 'Web 2.0,' a participatory state of the Internet where users are no longer simply consumers, but producers of online content. When Internet users began interacting with one another, using portals like MySpace and Facebook, the social characteristic of this medium accelerated. In his book, *New Media*, Flew (2007) describes the differences between the Internet's original structure ('Web 1.0') and Web 2.0 as the move from publishing to participation, from web content as the outcome of large up-front investment to an ongoing and interactive process. Social media, according to new media expert, Lon Safko, is "user-generated content—blogs, audio, video, music, news, photos, tweets—working together with digital technology in [an] environment [where] everything is accessible from everywhere and everything is connected" (WM Bookshelf, 2009, p. 24)

Students found the technology and resources provided by the Internet invaluable for a variety of reasons, including education, future career skills, and communication (Taylor, Whang, & Tettegah, 2006). What also became apparent was the potential for misuse, and rising safety concerns for younger users. The positive side to the advent of the Internet was how, as Poftak (2002) puts it, "kids [*sic*] are discovering new avenues for finding information, for socializing, for experimenting with different personas, and for gaining important technology skills they'll need for their futures" (p. 36). On the other hand, the 'Net' exposes children to abuse and misuse that manifests itself as dangerous experiences, such as pornography, violence in the form of pictures and video, and online bullying (p. 36). These safety concerns precipitated the need to develop policies to protect users by outlining the safe use of this new technology. Today, governments, school boards and administrators are still working to create and improve such policies.

As social media proliferated in business and with people of all ages, companies and schools began establishing Acceptable Use Policies (AUP) for employees and students. While there are several different types of AUP's, for the purposes of this paper, I am looking at AUP's that oversee how students and staff of a school, or group of schools, use the technology and electronic communication resources provided by a school or group of schools. AUP's are defined as "strategies that allow school districts to notify technology users of expected behaviour and set forth the consequences of misuse" (Conn, 2002, p. 91). While this definition may appear to be

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<sup>5</sup> "Information superhighway" was a popular term used through the 1990s to refer to digital communication systems and the Internet ([http://en.wikipedia.org/wiki/Information\\_superhighway](http://en.wikipedia.org/wiki/Information_superhighway)).

straightforward, it is problematic in that it's open to interpretation. As I will elaborate, later, therein lays a seed for inconsistency in quality school policies.

Having looked at the context in which social media emerged and how the creation of policies to oversee their use in schools has become districts', boards' and schools' responsibility, I now explore how the complexities of developing social media policy played out in the state of Missouri, in 2011, where over 530 individual school districts suddenly had to draft their own social media policies.

### **Desperately Seeking Standards—Muddled in Missouri**

In 2011, Missouri, a state almost at the midpoint of the continental United States, found itself at the center of news media attention because of its new, statewide education policy. Early in the year, Missouri passed Senate Bill 54. The bill, which became law, stated that students and teachers were banned from communicating with each other using social media sites such as Facebook and Twitter (Lytle, 2011).

In its original form, Bill 54 included provisions that defined terms such as 'non-work related internet sites', 'exclusive access', and 'former student'. It also attempted to define 'appropriate communication' and the use of 'electronic media,' in addition to setting rules for teachers who wish to set up their own websites for personal and professional reasons.

Policies such as Missouri's were likely in response to cases around the country where contact between student and teacher outside the classroom had led to headlines saturated with tales of inappropriate relationships (Texas Association of School Boards Legal Services, 2010) and online behaviour or comments by educators.

It wasn't long before the new Missouri state law was challenged by the Missouri State Teachers Association (Murphy, 2011). It argued that the vast majority of its members' online contact with students was strictly for educational purposes. In September 2011, the law was reversed by a vote of 139-2 in the state House. A month later, Governor Jay Nixon signed legislation that included revised language, while re-iterating his belief that social media is important to teaching and learning. The revised law reduced the five proposed rules and sub-rules to the following:

Every school district shall, by March 1, 2012, promulgate a written policy concerning employee-student communication. Such policy shall include, but not be limited to, the use of electronic media and other mechanisms to prevent improper communications between staff members and students.

The revised law would no longer require all school districts to ban social media contact between students and teachers. However, it did order each of the state's school districts to set electronic media policies to prevent improper communications between staff and students. There were no stipulated consequences for districts that did not comply, nor is the term 'appropriate' defined. This allows for individual school districts to design their own policies, based on their needs and values. But not all state laws are so laissez faire.

In states like Indiana and Virginia, similar laws include mandatory core set guidelines to be included in school boards' individual social media policies in addition to recommended information and stipulations that *should* be included (Taylor et al., p. 121). While in states like Indiana and Virginia, school districts' social media policies share common rules, such as those attempted in Bill 54's original language, one school district's policy may be different from

another. This goes a long way to explain the inconsistency of social media policies collected during my ongoing thesis research.

Missouri—the ‘Show-Me State’ (as proudly emblazoned on state license plates)—and its many school districts will be looking for resources to ‘show them’ how to develop effective social media policies which outline appropriate guidelines for online teacher-student communication. How will school districts with no prior experience in social media policy design a policy to address social media?

I believe Missouri’s law reversal should be lauded, however, the issue of creating a social media policy is far from resolved. First, individual school districts are well within their rights to develop policies imposing the very restrictions the Missouri Teachers Association argued against (Murphy, 2011). Second, the policy making process, itself, faces significant hurdles, such as who is going to draft these policies and will they include protocols for the use of social media in classrooms? As we wait to see what so many districts will draft in terms of individual policies, let’s turn our attention to an optimistic possibility now in effect in a high school south of Denver, Colorado.

### **Arapahoe High School’s Blogging Policy**

While not described as a social media policy, per se, Arapahoe High School’s (AHS) Blogging Policy is a ‘set of general guidelines’ for the use of weblogs, or ‘blogs’ (a form of social media), at the school for the purpose of assigned schoolwork. During my ongoing search for schools’ social media policies, AHS’s policy is a rarity. Not only does it refer to blogs as an ‘extension of the classroom,’ but until I found this particular policy, comparable documents identified themselves as electronic media or electronic communication policies, and only offered guidelines for employee actions, such as downloading material from the Internet and online behaviour outside the work or school environment (i.e. on one’s personal time).

To appraise this policy, I have selected Conn’s five standards (2002), a set of criteria used to evaluate school AUP’s that address the use of its ‘technology resources’ and the Internet for academic purposes. It’s worth noting that these were developed in 2002, years before social media came to fruition:

- (1) School computer facilities will be used for educational purposes;
- (2) Use educationally appropriate speech and expression when using the Internet;
- (3) Respect of copyright laws;
- (4) Expectations of privacy;
- (5) Users’ responsibility to avoid disrupting the educational process.

Taylor et al. (2006) used Conn’s standards to illustrate how five different school AUP’s compared to one another; their analysis revealed how use of technology policies are not homogeneous insofar as the use of a school’s technology resources and Internet facilities are stated within said policies. The reasons for the inconsistencies are explained by means of U.S. states’ own laws (e.g., Indiana and Virginia), which allow schools and school districts to mould their own policies around a core set of ideas—handed down from the state—as they see fit. The state does not explicitly instruct districts or schools how to mould their individual policies, however, the situation exposes all parties to issues of jurisdiction, and the centralization and decentralization of a school’s and state’s role in establishing and enforcing such policies.

As I will explore later in this paper, another possible explanation for the inconsistency demonstrated in Taylor et al.’s analysis of school’s social media policies using Conn’s standards might be the people or groups of people assigned to draft said policies.

### **Analyzing AHS's Blogging Policy Using Conn's Five Standards**

Using the AHS blogging policy as a case study, I begin with the first of Conn's standards: *school computer facilities will be used for educational purposes*. Here, AHS makes a distinction between the use of its computers for academic purposes and personal reasons. While Conn's first standard suggests that these specific school resources be used only for school purposes, AHS's policy repeats a notion that the school's computers may be used for personal reasons. By offering protocols for using school resources to blog or surf the Net while logged in as a student, the AHS policy stresses the importance of not sharing personal information when engaged in online activities. Should a student not wish to follow the guidelines, the policy requires that such online activity not be performed while logged in using the student's school username and password so that any and all non-academic online activities cannot be traced back to the school. Furthermore, students are not permitted to use the school's technology resources without using their student username and password. 'Not permitted,' in this particular policy, suggests an honour system in accordance with regulations and guidelines stated in other school policies that govern conduct and behaviour. The AHS policy complies with Conn's first standard, given that the school's online resources are treated as an extension of the classroom and not available to students who decide not to abide by its rules.

The second of Conn's five standards, *use educationally appropriate speech and expression when using the Internet*, is reflected in the policy's first guideline, as well as the policy's introductory paragraph: 'blogs' are considered extensions of the classroom. The policy reminds students that any speech "considered inappropriate in the classroom is inappropriate on a blog." The idea that blogs are part of the classroom environment is a clear statement about this school's governance in policies. By stating that the online actions of students are akin to those taken in a classroom, the school cleverly superimposes all applicable rules of conduct from the classroom onto activities performed online.

The policy's definition of conduct, however, is limited to defining specific types of language that will not be tolerated, including, "but not limited to, profanity; sexist or racist or discriminatory remarks; personal attacks." In terms of the various social groups chosen to represent language deemed inappropriate in blogs, I wonder whether other social groups may feel a lack of representation, or if umbrella terms like 'sexist' remarks are, in fact, considered shared values within the school district's community and therefore sufficient for this policy. Does AHS's policy language, given its purpose to regulate online blogs available for the world to see, become more than a school district's responsibility? Leicester (1992) differentiates the notion of shared values as being those to which all groups freely agree, and 'imposed' values that imply that adherence is backed by certain, often legal, sanctions. Is AHS's policy language, which regulates the language to be used in social media activities, shared, or imposed? While acknowledging that AHS's policy passes Conn's second standard, in a moment I shall enlighten readers with regards to who is actually composing these policies.

Before moving on to Conn's next standard, I must applaud AHS for expanding on the issue of language when students refer to groups of people when expressing an opinion. Augmenting the policy's approach to the issue of appropriate language when describing certain groups of people, AHS asks students to "try not to generalize," indicating that sentences referring to types of people and beginning with "All" is inappropriate (e.g., 'All teachers,' 'All conservatives'). While not required in a policy guiding the use of a school's technology resources and the Internet, this addendum reminds students of the need for civility, online and offline.

Conn's third standard concerns *respect of copyright laws*. The tenth and final stipulation of AHS's policy is a warning to respect copyright laws. Given that few people, let alone adolescents, are aware of copyright laws, it is understandable that the policy point is brief—dealing only with photos that may be included in blog posts. However, I feel it states too simply that images used for school documents should be 'appropriate.' Without defining the term 'appropriate,' users (including students) are left to determine what it means. Given that today's younger users of social media seem to regularly post less-than-appropriate images and content online (Teitel, 2011). Such key policy terms require precision and clarity. On the other hand, credit should be given to the policy writers for insisting in the policy itself that students not post any images that might identify them or other people. The AHS policy is an online document, so it would be simple to add hyperlinks to clarify terms such as 'copyright laws' and 'appropriate' whether the additional source of information is a government website, in the case of the former, or a student handbook, for the latter.

While I am inclined to award a pass to Conn's third standard, it will only be half a 'star'. Yes, copyright is addressed in a policy presiding over social media use. However, given the early stage of development of social media policy in general, the policy's copyright stipulation does not address potential copyright violations of other types of files, or blog posts comprised of text pulled directly from copyright-protected material. In that regard, I would hold Conn's third standard more accountable to the different types of files that might fall under copyright protection. Photos are dangerous for many reasons, the least of which is the legal consequences of theft of creative property. But the theft of words and thoughts are equally as important when dealing with students who may not yet fully comprehend concepts such as plagiarism, as well.

Conn's fourth standard is another obstacle parents and educators face when considering the introduction of social media into classrooms: *expectations of privacy*. The policy never describes the issue of privacy as a responsibility of the school to protect students. Whether that issue should be addressed is another matter, considering the nature of social media, and policy as contested and political ground. The AHS policy does, however, provide a plethora of 'do not do this' points throughout its ten stipulations, including "never post personal information on the web," such as phone numbers, addresses, personal details and photos. The policy goes a step further by informing students that anywhere they click and surf on the Internet when using their student account is linked back to their account and personal profile information. On that note, AHS suggests that students not publish too much about themselves when creating their personal profile.

Conn's fourth standard is more than addressed in AHS's policy. The approach the policy takes is not, nor can it be expected to be, a guarantee of security against an invasion of a student's privacy. Instead, it suggests to students many ways in which they, themselves, can mitigate the risks of privacy while online.

Conn's fifth and final standard is difficult to measure, as it addresses *users' responsibility to avoid disrupting the educational process*. Since the AHS policy largely addresses the proper and improper uses of its technology resources as they pertain to posting blogs, I do not find anything that might discourage students from disrupting the educational process. It should be noted that Conn does not define what 'disrupting the educational process' means. Does this standard refer to inappropriate, delinquent or irrelevant blog posts within the context of an online class discussion? Or, is this fifth standard meant to address how Internet surfing and social media interaction can become a distraction to school assignments? Whereas this standard's onus of responsibility does not seem to be included in AHS's policy, it fails to satisfy this particular

Conn standard.

Having met three and a half of Conn's five standards, I feel it's worth noting the apparent deliberate language and tone of AHS's policy. Using easy to read words and short sentences organized into ten points, AHS appears to have written this policy so it could be easily understood by secondary level students, in addition to those who may not be familiar with the concept of blogging (e.g. students' parents). Having taken into consideration for whom the policy is intended, I praise AHS for composing such a document with its intended audience in mind and, in the true spirit of social media, making it available online for anyone to see and share.

### **Challenges Facing Social Media Policies in Schools**

While most of the social media policies I have found in my research might collapse under the demands of Conn's Standards, I would attribute such inadequacies to the fact that the business of creating social media policies for secondary schools is even younger than its intended audiences. That said, a decade of growing social media usage has not motivated schools to produce policies ahead of this technology's seemingly unstoppable slip into classrooms. Instead, the first generation of policies appear to have been in reaction to media stories of inappropriate relationships between students and teachers, and educators sharing their opinions while 'off the clock'. To be fair, a 2009 study of 46 organizations' social media policies revealed that just 37% of corporate social media policies are created proactively (Boudreaux, 2009).

In August 2010, MSNBC reported how a Florida school district became the first such body in the state to officially advise its teachers not to 'friend' any students on social media sites—citing such networking sites as Facebook, MySpace and Twitter (Murphy, 2010). The Florida advisement came in the form of guidelines produced by school district officials in an effort to address their teachers' use of social media. The guidelines did not prevent a teacher's use of social media as a tool to "reach out to students", nor did it address how students should use it, however, it did remind educators of the limits of the teacher-student relationship. Laws designed to limit the student-teacher relationship do have their place to avert inappropriate relationships (and headlines, no doubt), however, it still seems as though most teachers, school districts and policies are out of touch with a technology their students have continued to embrace for years.

In *Policy Studies for Educational Leaders*, Fowler (2004) describes the 'Land of Oz'—the analogous land where education policymaking seems overwhelming to educators. She explains how education policy has become a quagmire of power politics that, over the course of decades, slowly usurped much of the policymaking power of educators who were eventually all but pushed out of the policymaking process. While she offers ways in which educators can and should take back their rightful role in the policymaking process, how many administrators or educators could *effectively* contribute to the creation of a social media policy, today? After the Missouri State Teachers Association forced Bill 54's reversal, thereby reasserting its members' authority to help draft over 530 individual school district policies, to whom does the responsibility to create these new social media policies fall? According to the Flowers and Rakes 2000 research, those who have reportedly drafted school board policies are either few in number, or possibly unqualified.

Flowers and Rakes (2000) explored exactly who drafts secondary school social media (or equivalent) policies and found that of the 85% of respondents from a nationwide survey of school districts, 73% indicated committees wrote their AUP, and 16.5% indicated one person composed theirs. Districts whose policies were written by an individual revealed that the

wordsmith was their technology coordinator or librarian. Interestingly, of those who stated that committees wrote their AUP, the majority of those committees admitted that, in the end, an individual wrote their AUP.

At the university level, Huisman and Currie (2004) explained that the sheer complexities that make up post-secondary schools have earned such institutions a longer leash from the government's hand. Secondary schools are not so fortunate. While high schools cannot simply adopt university-level social media policies for their own use, it is disconcerting to learn who is behind the development of social media policies destined for youth.

### **What Schools Can Learn From Business**

In 2009, Boudreaux, of *SocialMediaGovernance.com*, examined 46 social media policies from various businesses, non-profit organizations, and government agencies. In the report, he notes that when organizations' policy makers wish to balance empowerment and accountability with the use of social media by employees, many create at least two policies (Boudreaux, 2009, p. 4). Specifically, he found that most businesses develop not only AUP's with clearly defined standards and guidelines for the use of social media by employees, but also delineate consequences for violating such a policy with a second policy, or sub-section. While Conn's Standards outline how students and staff should make use of a school's online resources, Rader (2002) points out that most policies do not include provisions for students who violate a policy's guidelines. On top of not allocating a section of its policy to consequences for misuse of its technology resources, the language employed by AHS's blogging policy is devoid of repercussions. Instead, AHS's blogging policy remains focussed on the acceptable and 'successful' use of blogs for academic purposes.

In the case of schools' social media-related policies, I have yet to find one that states specific consequences resulting from violation of the policy, however, they do defer to an existing code of conduct, behaviour, or ethics policy as a tool to be used to render punishment for misuse of said policy. For example, by claiming that online actions of students are akin to actions taken in a classroom, the school can apply all rules of conduct for the classroom onto activities and behaviour performed online.

### **What's to Come?**

Is AHS dipping its toes into the world of social media policy so as to learn more about this new sphere of media before developing more stipulations or other policies? School administrators should not wait for mishaps with social media and unwanted media attention before rolling out policies. Is AHS's blogging policy a pro-active or reactive one? I submit that it is both, given what is missing and giving it credit for satisfying three and a half out of five standards developed early in the evolution of such policies.

As social media transforms the education landscape (Alam & McLoughlin, 2010), so too, must schools adapt to such transformations with policies to protect the rights of students and teachers within those expanding classrooms. Social media policies in schools need to keep pace with the evolution of social media as students increasingly use this technology to communicate and learn. Policies that administer safe and effective uses of this technology in classrooms should lead the way to teaching such 21<sup>st</sup> century skills as how to conduct and protect oneself online.

A prudent way in which a school or board might conceive of its own social media policy might be to not look at the policymaking process as the long, complicated affair it shouldn't have

to be—one that requires tremendous amounts of time, money and energy. Rather, one could follow Franklin and van Harmelin's (2007) recommendation that institutions minimize implementing regulations that might constrain experimentation with these technologies and allied pedagogies while continuing to monitor developments. Policies can always be adapted to meet changing circumstances or values, later, in-process.

Acceptable use policies vary; not only from school to school and district to district, but from place to place, user to user, and time to time (Marcroft, 1998). Social media has evolved to become a big part of the way students learn and interact. Research into social media issues and trends will equip policymakers with a critical advantage and the tools to get, and remain, ahead of social media trends so as to develop pro-active social media policies for schools.

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**Diving Into Social Media:  
Using Digital Technologies to Support Student Teacher Learning**

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**Abstract**

Kirkwood and Price (2005) have argued that technology-led innovations do not in *themselves* lead to improved educational practices. Too often technologies have been introduced to university teaching with little or no consideration being given to the implications for student learning. Their conclusion is that “although ICT can *enable* new forms of teaching and learning to take place, they cannot ensure that effective and appropriate learning outcomes are achieved” (Kirkwood, 2009, p. 110).

There are repeated calls to integrate digital technology into teacher education programs. Numerous reasons are offered in this persistent plea: student teachers are digital natives (Prensky, 2001); students must be prepared for a technology-driven world (National Council of Teachers of English, 2007); and technology is all around us (Kress, 2010; New London Group, 1996). One common belief seems to be that use of technology will accelerate student teacher learning. Selwyn (2011) warns: “the benefits of technology use are often taken for granted in education—part of the received wisdom of twenty-first-century teaching and learning” (p. 1). Although the rhetoric of twenty-first-century teaching might seem plausible and valid; Kirkwood and Price raise a seminal question: do the innovations in themselves improve learning? We would then add the corollary question: what does the integration of digital technologies into teacher education actually look like?

We are three teacher educators who have taken up the challenge of integrating digital technologies into our teacher education courses. Two of the authors, Clare and Lydia, co-teach two literacy courses in a two-year post-baccalaureate teacher education program at the Ontario Institute for Studies in Education. While Clare and Lydia’s courses receive high student evaluations, we felt that we were not fully integrating technology into our courses and were only touching on multiliteracies theory and pedagogy. We would describe ourselves as digital novices. Shawn teaches courses on the use of digital technologies in adult education environments in addition to methods courses at the University of Ontario Institute for Technology. He has done extensive research on digital technologies, in particular, examining the role of digital technologies in supporting student teachers’ development of professional knowledge, with an emphasis on the role of writing, online collaboration, and digital media to challenge and interpret assumptions about teaching and learning. He is a co-investigator of the large-scale SSHRC-funded grant, *Improving the Quality of Practicum Learning: Case Studies of*

*Four Canadian Teacher Education Programs*. Clearly, the three of us come from different perspectives; our skills and knowledge are significantly different but we share the common goals of wanting to support student teacher learning and improve our practice.

In this paper, we adopted a novel approach to the literature review. We first discuss two aspects from the literature, priorities in teacher education and multiliteracies, which is followed by a brief description of a self-study that the three of us conducted on Clare and Lydia's attempts to infuse digital technologies into our literacy courses. Based on the findings from the self-study, we embarked on three initiatives: developing a Wiki for our courses; framing our courses around a "big" question; and integrating digital technologies *naturally* into our courses. We then return to the literature. We chose this format for the literature review because it allowed us to use the literature first as an introduction and then as a tool for analysis. We conclude with a few points regarding educational significance of our work.

### **Literature Review**

Although we are working in different programs and content areas, we feel there are two central questions in teacher education that cut across all courses:

- What knowledge, skills, and attitudes should student teachers acquire during the teacher education program?
- What pedagogies can be used to help student teachers?

The first question is truly all encompassing regarding teacher education that John Loughran (2006) describes as a *pedagogy of teacher education*. However, if we narrow the first question to digital technologies, we can rephrase it as: What essential knowledge, skills, and attitudes regarding digital technology should beginning teachers acquire? Although this is still a rather "large" question, it can help to focus the discussion. If we want to refine it even further, we can draw on the research done by Kosnik and Beck (2009) who argue that we cannot teach student teachers "everything;" rather, we need to prioritize. What is essential for student teachers to learn about technology? And how can their learning be supported? As we pose these questions, we are not suggesting that there is a defined knowledge base regarding technology and we recognize that student teachers come to us with varying degrees of knowledge, skill, and interest in technology. Nevertheless, we feel it is imperative to ask, are there essentials regarding digital technologies? In this paper we describe some of the ways that we have addressed these key questions.

### **Priorities in Teacher Education**

As teacher educators, we know that beginning teachers require knowledge of curriculum and assessment; a repertoire of pedagogies; and a disposition for working with pupils and an openness to learning. Quite frankly, no new teacher can be fully prepared; however, we believe that we can more adequately prepare them. Kosnik and Beck conducted a longitudinal study of beginning teachers: 22 who are in their 8<sup>th</sup> year of teaching and 23 in the 4<sup>th</sup> year of teaching. Clare and Lydia have been involved in this longitudinal research on teacher education which has been funded through three successive SSHRC grants: *Teacher Education for Literacy Teaching; Key Components of Learning to Teach Literacy*; and *Teacher Change: Patterns, Factors, and Implications for Professional Education*. These studies have helped identify some of the essential subject matter content, pedagogies, and assignments which actually help beginning teachers acquire the skills to teach literacy. Based on interviews and observations, Kosnik and Beck argue that teacher educators need to prioritize in their programs. They outline seven key

priorities: program planning, pupil assessment, classroom organization and community, inclusive education, subject content and pedagogy, professional identity, and vision for teaching.

Kosnik and Beck found in their research that teacher educators often try to “cover the waterfront”, addressing many, many topics in literacy education. This leaves the students with superficial knowledge, often feeling overwhelmed, an awareness of the jargon, but not the skills to put together a literacy program. Teachers participating in this longitudinal research noted:

I would have preferred...a [preservice] program that helped me learn to structure a balanced literacy program...rather than here's a strategy, here's a strategy, here's a strategy. I can open a book and read how to teach students to write a bio-poem, I don't need you to tell me that.... I needed more on...how to organize my planning for the long-term. When I started, I didn't realize how little subject specific knowledge I had.... And the more I learn, the more I realize how much I need to learn.... It takes a lot of dedication to get to the level you need, because you can certainly just come in and leave every day and get through just fine. But that's not the best way to do it.

If we take this concept of priorities and apply it to digital technologies we then have to identify what are essential knowledge and skills to be acquired during teacher education.

### **Multiliteracies**

An array of communication channels (e.g., video sharing, blogs, text messaging) has ostensibly extended the boundaries of information exchange, social networking, and knowledge construction (Kress, 2010). The accessibility of various technological tools and shifts in communication practices calls into question how the concept of literacy is now defined, and how literacy education is to be engaged within contemporary culture. It behooves us in teacher education to consider the implication of these changing communication patterns and in turn position our courses in the broader social context.

Global economies, new technologies, and exponential growth in information are transforming our society. Today's employees engage with a technology-driven, diverse, and quickly changing “flat world.” English/language arts teachers need to prepare students for this world with problem solving, collaboration, and analysis—as well as skills with word processing, hypertext, LCDs, Web cams, digital streaming podcasts, smartboards, and social networking software—central to individual and community success. New literacies are already becoming part of the educational landscape ... (National Council of Teachers of English, 2007, p.1).

The field of literacy has changed in the last few decades; multiliteracies theory has led many educators to rethink what literacy encompasses and the types of literacy experiences students have on an almost daily basis. As the term implies, one of the central ideas of multiliteracies pedagogy is that there are many types of literacy: a “burgeoning variety of text forms” (New London Group, 1996, p. 61). Accordingly, it is inappropriate for schools to focus on “a singular, canonical” language form such as formal written English (p. 63). In terms of teaching, educators must recognize that “[w]hen technologies of meaning are changing so rapidly, there cannot be one set of standards or skills that constitute the ends of literacy learning” (p. 64).

As we read the research on multiliteracies, we were struck by Cervetti, Damico and Pearson's (2006) simple statement – “... future teachers should learn about, through, and with

technology-based media” (p.383). We realized that in our pedagogy of teacher education (Loughran, 2006) we needed to have technology fully integrated into the literacy courses—we have to teach with it and help students acquire the skills, knowledge, and attitudes to incorporate technology into their own teaching (Bullock, 2011; Cervetti, Damico & Pearson, 2008; Kirkwood, 2009). Leu, O’Byrne, Zawilinski, McVerry, and Everett-Cacopardo (2009) advanced our understanding because they argued that we must “see the Internet not as a technology but rather as a context in which to read, write, and communicate” (p. 265). When we started to think of digital technologies as literacy issues, we were encouraged. Our thinking was deepened by Davies and Merchant (2009) who describe Web 2.0 as “...a term that attempts to highlight a new wave and increased volume of users who have developed new ways of using digital technology to interact with each other” (p. 3). Our engagement with multiliteracies theory prompted us to ask: What kinds of opportunities can teacher education programs create for pre-service teachers to explore literacy in their lives, their classrooms, and the lives of the students they are and will be teaching?

### **Self-Study Research**

In 2010-2011 we conducted a self-study on our efforts to infuse technology into Clare and Lydia’s literacy courses (Shawn was the critical friend and expert colleague who supported them). The self-study was multi-layered following Samaras and Freese (2006) description of self-study research as “layered and multifaceted with overlapping objectives and with the key purpose of refining, reframing, and renewing education” (p. 14). We sensed that as we engaged in this research, our findings would inform our continuous reflection on our practice, and in turn, require us to modify the way we approached our work as teacher educators. We were attempting to understand and improve the various aspects of our practice. Laboskey's (2004) five principles for self-study were relevant for this work: self-initiated and focused; improvement-aimed; interactive; multiple, primarily qualitative, methods; and exemplar-based validation (pp. 842-852).

Our three main research questions for the self-study were:

1. How did our use of technology in our literacy courses change in 2010-2011?
2. How did a greater focus on technology change our identities and practices as teacher educators?
3. What problems (technical) of practice (our own skills) did we encounter?

To develop our data sources, we conducted the following activities:

1. After each class, we debriefed and wrote notes.
2. We kept a running tally of our efforts to incorporate technology into the courses.
3. At the end of the courses, we each wrote reflections on our efforts and responded to each other.
4. We had on-going discussions (f2f and online) with our critical friend, Shawn.
5. The student teachers gave us weekly feedback (e.g., ticket out the door) providing us with their perspective on our work.

In terms of analyzing our efforts to infuse technology we chose Ottenbreit-Leftwich's (Ottenbreit-Leftwich, Glazewski & Newby, 2010) six different ways to incorporate technology:

1. information delivery,
2. hands-on skill building activities,
3. practice in the field,
4. observations and modeling,

5. authentic experiences,
6. reflections (2010, p. 20).

We used a ground theory approach which Punch (2009) explains, is not a theory, but a strategy used to generate theory that will be grounded in the data (p. 130). The theory is developed inductively from the data using a set of techniques and procedures for collection and analysis (Punch, 2009). Throughout the analysis, we identified key themes, and then worked together selecting the themes that we felt captured our work. As Strauss puts it (2003), “The basic question facing us is how to capture the complexity of the reality (phenomena) we study, and how to make convincing sense of it” (p. 16).

### **Categorizing our efforts**

We identified 32 ways that we integrated technology into the course. Those who are experts in digital technologies might see some of these efforts as minor or trivial but for Clare and Lydia, they were major steps forward.

- Post course outlines and notes on Blackboard
- Use Blackboard to communicate with students
- View videos from YouTube
- Use a class set of notebook computers so groups of students could listen to a different podcast of literacy teaching
- Access the *Read, Write, Think* website <http://www.readwritethink.org/> for resources, videos ...
- Offer students choice of doing an alternative form for their 2<sup>nd</sup> literacy paper
- Gave students the option of using different modalities for their All about Me Book (e.g., iBooks) then as a class look at each and discuss process and value of it
- Do a Wordle for the weekly Ticket Out The Door (to monitor student learning)
- As a class, make a Wordle for incoming students about the Master of Teaching program
- View various international newspapers (e.g., *The Guardian*, *Al Jazeera News*, *South China Daily News*, *New York Times*) on how the Japanese earthquake was being described which led to discussion on perspective and media literacy
- View Websites of different authors whom we have read in class e.g., Dr. Seuss for children’s literature <http://www.seussville.com/>; Nancie Atwell for professional readings <http://www.c-t-l.org/faculty.html>
- Access authors reading their works (e.g., Gwendolyn Brooks reading *We Real Cool* [http://www.youtube.com/watch?v=\\_3kF6MGBjzk](http://www.youtube.com/watch?v=_3kF6MGBjzk)) on YouTube or Reading Rockets <http://www.readingrockets.org/>
- List forms of communication that we use in our daily lives then compare this to traditional literacies
- Students work in small groups (e.g., feedback sessions about practice teaching) – one person takes notes and reports back to the large group, notes from all of the groups are projected onto screen then as a class read through them looking for patterns
- Use Powerpoint to support lectures
- Offer a special session on adaptive technologies for special needs students
- View rap videos (What stereotypes are being presented? What literacy skills are being used?)
- Discuss pupils’ out-of-school literacy practices to consider what teachers should be doing (or not doing)

- View websites for poetry (e.g., Shel Silverstein <http://shelsilverstein.com/indexSite.html>)
- View Frank Serafini's website re: fiction and non-fiction <http://www.frankserafini.com/>
- Listen to Jon Scieszka being interviewed (<http://www.readingrockets.org/books/interviews/scieszka/>)
- Watch video of teacher doing guided reading and analyze it
- Define visual literacy
- Make a class list of websites that have high quality curriculum resources
- Upload digital photos to a shared site, Shutterfly, to create a pictorial history of the program
- Watch videos that students created for the video contest, *I am a teacher*
- Look at a teacher created website for the teaching of writing <http://twowritingteachers.com/default.aspx>
- Read through teacher blogs <http://edublogs.org/>

When we analyzed our efforts using Ottenbreit-Leftwich's framework, we saw that our efforts were predominately in the categories of information delivery and modeling (e.g., Powerpoint). This is probably because we had a hit and miss approach - we would find for example a YouTube clip while prepping for class and quickly decide to use it. This ad hoc approach helped us get over the hurdle of our insecurities but had limited educational value. We also realized that we were trying to map digital technologies onto an existing course, not rethinking process and goals. Our current work, described below, builds on the findings from that self-study research, in particular addressing gaps (content and pedagogy) we identified in our practice.

### **Moving Beyond Information Delivery and Modelling**

During the summer of 2011, we spent a significant amount of time trying to figure out how we could shift our efforts to using digital technologies to support student learning. We spent many hours searching for technologies to incorporate. As Boling (2005) noted: "For many K-12 teachers, resources and activities for integrating technology do not come ready-made, in packages ... these same challenges exist for college and university faculty, as they attempt to find and develop resources that match the content of their courses and their teaching practices" (p.2). This was certainly true of our experiences and with time we found some high quality resources and pedagogies.

We knew that we needed to prioritize our efforts regarding digital technologies; rather, than do a "cover the waterfront" approach we decided to focus on a limited number of initiatives. Once our goals were clearer, support student learning, we became more systematic in our efforts to infuse technology. For example, we used videos from the Annenberg website of teachers engaging their students in literacy instruction (e.g., Sheila Owens' kindergarten class <http://www.learner.org/resources/series162.html?pop=yes&pid=1724>). Beyond finding high quality resources, we had three initiatives which we believed would support student learning: developing a Wiki for our courses; framing the course around a "big question"; and incorporating digital technologies in a natural way into our courses.

#### **A. Building a Wiki for Our Courses**

Although we were keen to improve our courses, we needed professional assistance. Our university has a thriving Information Technology Department and a number of researchers on digital technologies. We approached many to ask for assistance with developing a Wiki for our courses but the support they provided was limited for two main reasons: first, we were not

certain what kind of guidance we actually needed; and secondly, the experts we consulted often talked at a level and in a discourse that was beyond Clare and Lydia. For example, to our simple questions they launched into description of programming or asynchronous timing. We asked instructors who use Wikis in their courses to show us theirs; however, some were so sophisticated requiring knowledge of programming they were intimidating. Other instructors did not have a philosophy of education consistent with ours which meant their Wikis were not consistent with our goals. For example, some instructors use Wikis for a place to post comments and questions (mandatory postings) regarding readings but this was not our purpose nor was this consistent with our pedagogy of teacher education. We realized that we needed to do some soul searching so we went “back to the drawing board”.

This led to us defining **why** we wanted to incorporate a Wiki into our courses. We identified four reasons:

- It would be a repository for materials related to literacy to which the student-teachers could contribute.
- It would show students a way to organize materials.
- It would be an on-going site to access and share materials which students could use after graduation.
- It would model for students a way to use a Wiki in their classrooms with children.

Lydia and Clare wanted to start small, learn to use the technology, study to see how students use it, and then re-evaluate. In a way, we were doing a second self-study of our efforts. As novices we were unsure if we could master the technology; therefore, we did not want to launch an initiative which then failed.

Once we were able to figure out why we wanted to use a Wiki, we located a computer expert from the school district to help us. We were delighted when we found someone who could “speak a language” we could understand. Tony is a high school music teacher who had recently completed his doctorate. We approached him and asked for assistance. He showed us the Wikis he had developed for his music courses and then introduced us to Wikispaces (<http://www.wikispaces.com>). His direction was invaluable because seeing a Wiki that we felt we could use as a model was what we needed. Wikispaces has turned out to be an incredibly easy program to use. Clare and Lydia took the lead on developing the Wiki, a huge leap for us, but when it was launched we were so proud of our efforts. Currently, our Wiki has the following pages: course materials, professional literature, children’s literature, websites and digital technologies, lesson/unit plans, and so on. Each week we add to it and are constantly encouraging student teachers to upload to it.

We have found having one site to post all of the literacy-related materials that we come across to be a huge benefit for us and our students. Rather than having to make duplicates or find out who wants a copy of something, we simply post it on the Wiki. It also is a place to post additional readings, research reports, resources that might be relevant to our students, and so on. Some students are keen, checking it regularly, while others have been much slower to engage with it. We are glad that we did not make posting to the Wiki mandatory (other than the final assignment of the course) because it has changed it from an assignment to a collaborative resource. From our work with beginning teachers, we know that they often have problems finding suitable curriculum resources, the Wiki we hope will alleviate some of this stress because they will have access to it after graduation. When beginning teachers are no longer in a teacher education program where reams and reams of materials are distributed, (some of use, some not relevant), they have to use their own initiative to find suitable resources. In a way, the Wiki

prepares them for this task: it requires them to select and save/print off what they need which is what they will be doing as teachers – selecting materials and resources that match their immediate goals or needs.

## **B. Framing Our Courses Around a “Big” Question**

All three of us felt that our student teachers were approaching our courses with a traditional mindset of teaching/learning (e.g., they will learn how to teach from lectures, textbook readings, and, of course, practice teaching blocks). Clare and Lydia discovered that many of their students entered the literacy course with narrow views of literacy education informed in part by their prior experiences as elementary/secondary school students. Although our student teachers seemed to be incessantly using social networking programs, they did not see them as part of their academic learning and more importantly as part of teaching. In addition to expanding readings to include literature on multiliteracies and discussion of the concept, Clare and Lydia adopted the question, what does it mean to be literate in the 21st century? This question was on the course outline and addressed throughout the year. In the first class of each course, Clare and Lydia posed the question: how do you communicate with your family, friends, and acquaintances? At first, the students responded with conventional means like telephone, letter writing, and email and then stopped. We had to push them to think about all of the ways they communicate: Facebook, Twitter, Blogs, and so on. Eventually we had the entire board filled with modalities. We then moved to the question: which of these modes of communication are literacy-related? Interestingly, a few students felt that all were not really literacy-related but the vast majority of students in both classes started to see these forms of communication as forms of literacy. In Lydia’s research on students who had completed this activity, she found that it had a tremendous impact on them. Sarah, a student teacher, characterized this activity as a pivotal moment in her learning, which shifted her definition of literacy. She recalls that “after the first few classes, when we talked about incorporating outside literacy into the classrooms, you know talking about text messaging as literacy and I remember being like so wowed by this concept.”

We rounded out the discussion with the following question: since your pupils most likely will be using many of these modalities, what is your responsibility as a teacher? This was an extremely difficult question that stymied many/most students. After each practice teaching block, we came back to this question and each time we noted that their answers were much fuller. For instance, upon considering the potential implications of digital technologies on his/her future teaching practice, one of the student teachers commented:

Everything is going into social media and everything is at the palm of your hand now and if we’re not teaching to that, if we’re still expecting kids to get answers out of text books or to communicate through a written letter, we’re not teaching to their needs. We need to teach them how to email, we need to teach them how to critically evaluate information especially on, on Facebook or web sites, skimming and scanning something like that is much more um, in my opinion, is much more useful to them

In subsequent weeks, we used a number of digital resources to help students appreciate and understand this big question:

- *Information Literacy and Engaging the 21st Century Learner (2nd edition)* which is an excellent video with statistics on literacy and current modes of communication;  
[http://www.youtube.com/watch?v=y3kbwfaMEKY&feature=player\\_embedded#!](http://www.youtube.com/watch?v=y3kbwfaMEKY&feature=player_embedded#!)
- Print resources such as *21st-Century Literacies: A Policy Research Brief* produced by the National Council of Teachers of English; and,

- A number of humorous videos about changing literacy practices yet enduring modes (e.g., books): *It's A Book* by Lane Smith [http://www.youtube.com/watch?v=x4BK\\_2VULCU](http://www.youtube.com/watch?v=x4BK_2VULCU)

We thought that one class where we had used a number of modalities would be an ideal time to discuss how various modalities support learning. We asked the students which modalities we had used in this class. We were stunned when they came up with only two: Powerpoint and lecture. We had to prod them to identify the many other modalities they had just experienced: webpages; YouTube clips; *Read, Write, Think* website; readings from the textbook; a picture book we had read aloud; paper and pencil; Wiki; and talk. A lesson that we have taken away from our experiences is that we need to make explicit to student teachers the world of digital technologies we/they are using. As one student commented, "I never would have thought of Instant Messaging as a form of writing." Having a big question as the framework for the course we had hoped would send the message that we wanted students to conceive of literacy broadly and to think beyond the textbook but this is an assumption that we now believe does not hold true. Much more direct "teaching" is necessary; we cannot assume that students are fully aware of what we are doing in teacher education and the potential implications for their developing teaching practice.

### C. Integrating Digital Technologies *Naturally*

A wise colleague of ours, David Booth, noted that "you teach who you are." If we were reluctant digital users in our personal lives, most likely we would be so in our professional lives. We needed to be using digital technologies more in our personal lives (beyond word processing and cell phones). As we became more adept with them in our personal lives (e.g., Clare using an iPad) we became more comfortable with technology in our professional lives. This step was an important bridge into more naturally using technology in our courses; for example, when Lydia got a new computer she *played around* with iMovie which led to us making a video in the first class of each literacy course. Each student teacher was asked to respond to a question (e.g., what they hope to learn in the literacy course, what is a favourite memory of reading and writing, and so on) which was videotaped. Then using iMovie, Lydia made a movie from the clips. The students were absolutely "blown away" with the video and requested that we make a similar video at the end of the course because it would be a great pre- and post-measure of their learning. Interestingly, a number of student teachers made iMovies in their practice teaching classes using this model. We anticipate that the next video will include many references to digital technologies as part of literacy.

Knowing that our students are always anxious to receive many practical resources we show them a number of on-line curriculum resource sites and post them on the Wiki:

- <http://questgarden.com>
- <http://www.shmoop.com/gift-of-the-mag>
- <http://www.brainpop.com/>

One week we directed students to the *Read, Write, Think* site: <http://www.readwritethink.org/>. They were required to complete one activity from the site and bring a hard copy or their notebook computer to class the next week to share with fellow students. The students had so much fun with this task that many did many activities and in the debriefing session after practice teaching, many commented that they used the site in their practice teaching classes.

A regular aspect of our literacy courses is that each week we read a story at the start of class. We now follow the reading by going to the website of the author

(<http://www.jackgantos.com.vhost.zerolag.com/>) to learn some personal background about the author, Jack Gantos in this case, and to see if there are suitable curriculum resources. Students are usually pleasantly surprised when they discover that many websites include very high quality resources, which are immediately available to them. Again we feel this is a skill that beginning teachers need – locate quality materials and use the information on the web to enhance their literacy practices. Having student teachers learn a bit about an author (e.g., Jack Gantos who wrote *Joey Pigza Swallowed a Key* spent 18 months in prison) certainly engages them.

We were clearly using digital technologies in our literacy classes to a much greater extent than in previous years but we were still aiming to incorporate them in the students' work in a manner that was not contrived (or as natural as it can be in a mandatory course). This led to us revamping the assignment responding to a text on writing. Students had to read a book on one aspect of writing (e.g., narrative writing, spelling, assessment of writing), and rather than write a paper/essay which only Lydia and Clare would read, they had to summarize the book and present their response and analysis to a small group of their fellow students using a digital technology (e.g., iMovie, a graphic organizer, a web quest, a comic book template, Wordle, Word Puzzle, digital photos, music, podcast, activity from the *Read, Write, Think* site). Not only must they present their insights into the topic, they must also describe why they chose this digital technology and how they think it will support the learning of the audience members. The students are required to post their presentation on our Wiki which will disseminate their analysis to a greater extent.

### **Looping Back to the Literature on Digital Technologies**

In this section, Shawn provides an analysis of Clare and Lydia's work by drawing on some of the literature; this unusual approach to the literature review is consistent with a grounded theory approach. And with Shawn continuing to be our critical friend, his analysis is helpful to us and, we hope, the readers of this paper.

#### **A. The Problem of the “Digital Divide”**

Much has been made of the so-called “digital divide” in both the scholarly and popular literature. The most popular rhetoric comes from Marc Prensky (2001), who coined (and popularized) the dichotomy of “digital natives” and “digital immigrants”. The mythology states that simply by growing up in a digital world, children, youth, and perhaps even some young adults are able to intuitively and un-problematically use digital technologies. It is the older people, the “immigrants” that are not familiar with the digital world, that must struggle to at least catch up with, if not surpass, the digital natives. Part of the popularity of Prensky's ideas resides in their intuitive appeal; most adults can probably bring to mind an image of a young child using a digital tool in a novel ways. Yet there is considerable research that casts doubt on Prensky's claims. A recent article by Bennett, Maton, and Kervin (2008) in the well-respected *British Journal of Educational Technology* found little evidence to support the idea of the digital divide, and chided “the language of moral panic and the divides established by commentators” by arguing that such divides “serve to close down debate, and in doing so, allow unevidenced claims to proliferate” (p. 783).

Even if students use digital technologies in their personal life, there is a big difference between personal use and purposeful use of technology for learning. Similarly, it is not productive to assume that student teachers, many of whom might be considered “digital natives” by some accounts, can purposefully integrate digital technology into their teaching simply by

virtue of growing up in a world where MSN, Facebook, and email are ubiquitous. Although some researchers have suggested that people are more likely to use technologies in their professional life than they use in their personal lives, there is again a big difference between using technology to, say, compose a document or presentation and use a wiki as a tool for collaboratively building knowledge.

*Connection:* Clare and Lydia are not assuming that student teachers will be able to use digital technologies for teaching, and are explicitly modelling the use of specific tools and sharing the journey of learn to teach purposefully with technology with students.

## **B. Mindtools**

Reiser's (2001a, 2001b) histories of educational media and instructional design reminds us that, in many ways, the role of technology in education has been to deliver more instruction, faster, to a wider audience. From this perspective, students are asked to perceive and process messages contained within media and technology, often with minimal interaction that centers on systems providing feedback on the correctness of particular answers. David Jonassen (1996) introduced the concept of mindtools to think about how technology might be used in an educational context. Specifically, advoc digital technologies "should be used as knowledge construction tools that students learn *with*, not *from*. In this way, learners function as designers and the computers function as Mindtools for interpreting and organizing their personal knowledge" (Jonassen, Carr, & Yueh, 1998, p. 24). Learners are able to engage with particular tasks, uniquely provided by the mindtools, that provide an opportunity for an increase in both the quality of the learning experience and, on a systemic level, increased capacity for human-computer-human interaction (HCHI).

*Connection:* One thing that becomes abundantly clear upon listening to Clare and Lydia discuss their work is the degree to which they encourage student teachers to learn with computers, rather than assuming that technologies are simply a more efficient delivery system. For me, their focus on exploring multiliteracy theory in a technology-rich environment, with A LOT of options for learning with technology, is a great demonstration of an approach that favours technologies as mindtools.

## **C. What can technology actually do?**

Following the Institute of Electrical and Electronics Engineers' (IEEE) definition of what a computer is able to do, Desjardins, Lacasse, and Bélair (2001) defined four orders of competency for how information and communication technologies are used in education: the technical competency, the informational competency, the social competency, and the epistemological competency. Each of these definitions has a particular competency associated with it. The *informational* competency is linked to a computer's ability to store data, and it is about storing, accessing, and aggregating information. The *social* competency is linked to a computer's ability to transmit data and social competencies have become even more ubiquitous as we have moved from email toward instant messaging, video chat, and social networking. The *epistemological* competency refers to how we direct computers to process information. One example might be creating a formula in a spreadsheet and telling the computer to apply the formula to a list of numbers.

*Connection:* As I read through the list of mindtools that Clare and Lydia have used and reflect on our conversations about the joys and challenges of using digital technologies, I am impressed with the depth to which each of the three competencies were addressed. By providing

a rich learning environment where student teachers are more fully able to explore the concept of multiliteracies in a digital age, Clare and Lydia have given student teachers a powerful experience to develop the three aforementioned competencies.

### **Educational Significance**

Returning to the concept of priorities in teacher education, we believe that we have identified some priorities regarding digital technology: using social media (e.g., Wiki) as a collaborative knowledge building site; identifying key digital resources (e.g., Annenberg Learner videos, *Read, Write, Think* site); integrating technology into the program through our pedagogy and student assignments; and incorporating the concept and practices of multiliteracies into our courses by conceptualizing literacy in the broadest of terms and showing how communication practices are very multimodal. In the sections above, we described many of our efforts to weave digital technology seamlessly into our courses and to use them to support student learning; as exciting as this work has been, it has been extremely difficult to do because we have not experienced learning in a technology-rich environment. It is very difficult to teach in a way that we were not taught. Like most teacher educators, we need many more examples of using technology beyond Powerpoint. Teacher educators must "... have access to more experienced technology users who can serve as role models for innovative technology integration" (Boling, 2005, p.2). We are very comforted by Boling's words and concur there needs to be much more support for faculty which Shawn has provided to us. Further, we now realize that incorporating a greater number of digital technologies requires the same forethought as choosing readings. As we develop a repertoire of strategies using digital technologies we are becoming more selective in matching the learning outcomes to the technology. All of this takes time which is often in short supply in academia. In our teaching, we still capitalize on the "wow factor" that technology can provide. For example, we use the rap poem, *I Can't Read* to show that literacy is the currency of school: (e.g., <http://www.youtube.com/watch?v=lByDfPOG0LA>). When we use these kinds of digital tools to engage students, we are much more conscious of what we are doing.

Without question, many of our students are very tech savvy in their personal lives (e.g., constant postings on Facebook) and they might have grown up with technology in their personal lives but it is naïve to assume that they know how to use technology in their teaching. Like us, they do not have examples of how to do this. They too will need to learn in settings where technology is integrated into course delivery and they need to be taught how to integrate technology into their teaching. Use of technology should not be the goal; rather, it needs to be use of technology to support learning, which is a far more challenging task. We believe that our initiative to incorporate digital technologies into our literacy courses has supported student teacher learning. We make this claim based on student feedback on the Ticket Out the Door forms, increased links to technology in student assignments (e.g., content and presentation), the range of digital technologies students used in their practice teaching placements, and use of the Wiki (e.g., accessing it and posting on it).

Education has been plagued by jargon; as Kosnik and Beck found in their research on beginning teachers, simply knowing the terminology is not sufficient. The repeated call to integrate technology into teacher education, although a laudable goal, is far too vague and we feel has reached "jargon status". We are not sure that we know (or if others know) what integration of technology actually means but we will continue to work on it. Indeed, these kinds of questions have been of concern to historians of technology for decades, particularly given the

confusion over what the world “technology” actually means. Is it a set of skills? Is it part of material culture? Is technology the set of artefacts that we use daily? Marx (2010, p. 563) argues that the term technology has filled a “conceptual void” brought about by rapid change in society. It is not surprising that integration of technology is at least as confusing as the meaning of the term.

We, Clare and Lydia, could not have done this work without Shawn because he offered us insightful feedback on our efforts, provided a broader (more philosophical) perspective on use of digital technologies, helped us with analysis of our data, raised pertinent questions, provided examples, and was a critical friend and colleague who helped us maintain our commitment even when our enthusiasm lagged. He also showed us examples of integration of technology into his physics courses. Although we are clearly in two different content areas, his pedagogy of teacher education is consistent with ours (e.g., respect student teachers, require assignments that are actually useful, capitalize on student enthusiasm, unpack assumptions, draw attention to the obvious but often unexamined, be responsive to students, study your own work, keep your focus on student learning, provide practical resources, help students develop an approach to teaching). His knowledge of the possibilities for integration of digital technologies into teacher education courses helped us make our teaching relevant for the 21<sup>st</sup> century. And for that we are grateful.

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# **Orientations toward Using Social Media, Digital and Mobile Technologies to Improve Literacy Skills among Diverse Students in Urban Schools**

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## **Abstract**

Many current or former English language learners in inner-city neighbourhoods from lower socio-economic and backgrounds face a formidable challenge during the critical transition from elementary to middle school. Their challenge in learning literacy has been centered on the mismatches between their learning abilities and preferences and current instruction methods applied in North American classrooms. These modern adolescent students' abilities to learn and process information are vastly different from those of previous generations as they are heavily immersed in and reliant on social networking media and technology devices, which are pervasive and prevalent in their lives. The paper reports the preliminary findings of our project that investigates linguistically diverse urban students' access to social media and technology devices and their orientations toward using social media for literacy learning. Data were collected using survey from 524 students in grade 6, 7 and 8 in a Boston Public School.

## **Introduction**

Each year, a significant number of students, with limited or no literacy skills enter K-12 school systems in Canada and US, and subsequently fall behind their grade level. This leads to learning difficulties across academic areas and ultimately, frustration with schooling, a high likelihood of dropout and failure to achieve academic success (August & Shanahan, 2006; Geva, 2006; Snow, 2010). This includes many linguistically diverse English language Learners (ELLs), a category that accounts for 20% to 50% of the general school-age population in urban schools (Roessingh, 1999). These students encounter their most formidable academic challenge at the onset of the middle grades (Carnegie Council on Advancing Adolescent Literacy, 2010). Among all the factors at play in relation to these students' low accomplishment, research findings have achieved a consensus about two major causes: their lack of exposure to an academic literacy-rich home environment, and the absence of the development and implementation of vigorously-tested innovative instructional approaches that are well enough aligned with their interests to ensure engagement and learning.

For the past decade, digital, network and mobile technologies have been pervasively integrated into our everyday lives, and have proven intrinsically attractive to young people (Cummins, Brown, & Sayers, 2007; Levy, 2007; Warschauer, 2011), as shown by the time they spend in virtual space, juggling multiple devices and software applications. Modern students' ability to take in, learn and process information is dramatically different from previous generations. Emerging mobile and digital technologies and their convergence have provided extra-ordinary opportunities for educational interventions reaching across disciplines, distance

and time. In the interest of improving academic outcomes for urban middle school students, the present study attempts to identify adolescents' distinctive patterns and preferences in using technology including social media for receiving literacy instruction and learning.

### **Literature**

A growing body of research has shown that technology-supported learning venues that incorporate research-driven learning principles, demonstrate great potential to engage students over an extended period, and to create compelling, fluid, interactive and collaborative learning environments, which can teach students language skills, and elicit creativity via constructivist learning and Vygotskian social scaffolding (Dede, 1995; Vygotsky, 1978; Gee, 2003, 2004; Gee, Hull, & Lankshear, 1996; Warschauer, 2006). For example, some research has shown that technology-assisted or blended instruction integrating hypertext and hypermedia is more effective than other traditional scaffolding in supporting adolescents' vocabulary learning (e.g., Li, 2009, 2010), and reading comprehension for students across elementary grades, including struggling readers and students with learning disabilities (e.g., Olson, Foltz, & Wise, 1986; Lewin, 1995; Olofsson, 1992). These studies showed that electronic books which provided children with cues to cross-check meanings, and colorful illustrations and animations not only motivated them to read, but also allowed them to read more of the text on their own (e.g., Higgins & Boone, 1991; Matthew, 1997; Medwell, 1996). A study by Dalton and her colleagues (2002) showed that early adolescent students reading at or below the 25th percentile who received computer-supported instruction when reading a digital novel gained more than .5 grade equivalents in the pre-test to post-test comparison, while students in the non-computer group gained about .2 grade equivalents, a statistically significant difference. Warschauer's (2009) study on the K-12 students learning to write using laptop computers in 10 diverse schools showed substantial positive changes in each stage of the writing process, including better access to information sources for planning and pre-writing, easier drafting of papers, more access to feedback, more frequent and extensive revisions, and greater opportunities to publish final papers or otherwise disseminate them to real audiences.

However, limited evidence is available about such pedagogical benefits for the students focused on in this research. The digital divide means that some segments of society, including urban, new immigrant students, have little access to the new information and communication technologies (ICT) whose use by mainstream students is growing rapidly. For example, teens who have high-speed Internet access are more likely to be Caucasian and have college educated parents with annual household incomes above \$50,000, although the digitally disadvantaged often share many of the same beliefs as their more privileged counterparts. A survey shows that African-Americans, for instance, are more positive in their attitudes toward technology than Caucasian-Americans in many respects, contrary to public assumptions (Mossberger, Tolbert, & Stansbury, 2003). Recent data indicate a shift in the divide as a result of mobile technology, with cell phones leapfrogging connectivity roadblocks for low income, minority teens and adults. Early studies indicated that adolescents from low income backgrounds are less likely to have access to computers at home. However, low- and middle-income students are equally likely to use computers for academic purposes (e.g., Eamon, 2004). The results from the Pew Research Center's Internet and American Life Project show that 95% of teens in the U.S. between the ages of 12 to 17 report using the Internet, and 80% of those use social media (Lenhart et al., 2011). Teen smartphone owners in the lowest household income category are most likely to use their handset to go online (41% of under 30K vs. 23% over 75K) (Pucell, 2010). This may be an early

indicator that the access divide is diminishing, but leaves us with questions about differences in beliefs and in usage.

Though research has continued to focus on socioeconomic differences between users and non-users (Ferro, Helbig, & Gil-Garcia, 2006; Fong, Wellman, Kew, & Wilkes, 2001), we need to consider students' attitudes toward social media (i.e. Facebook, Twitter, YouTube) as learning tools. Public education further complicated the situation as the digital divide between schools and the students' home environment overrides demographic and geographic boundaries (Warschauer, 2003). In this era of transformation of knowledge and information accessibility, only by leveraging the variety of technologies in which students immerse themselves can interventions optimally enhance their learning. Therefore this research examines the feasibility of using digital and mobile technologies as a component of a literacy instructional intervention and answers the following research questions:

1. Do urban middle school students have access to digital and mobile devices and services?
2. Do these students have any differential access to the technologies at home and in school?
3. Are these students interested in using digital and mobile technologies for the purposes of literacy learning?
4. Are there any differences in the interest and access between ELLs and native English speakers?

### **Methods**

The study was conducted in an urban middle school in Boston, with a total of 623 students in grade 6, 7 and 8. Based on the information from Massachusetts Department of Elementary and Secondary Education (2011-2012), 75.6% students at the school receive free lunch and 9.8% receive reduced-price lunch. 34% of the students' first language is not English, and 21.7% have limited English proficiency. 531 students at the school participated in the study.

A five-page self-report survey was distributed to all students at the school by teachers. The questionnaires were completed during the class within 30 minutes. The survey collected the information from five aspects, including

1. Access to and frequency of home use of four technology devices: desktop computers, laptop/netbook computers, tablet computers, and cell phones;
2. Access to and frequency of school use of four technology devices: desktop computers, laptop/netbook computers, tablet computers, and cell phones;
3. Purposes for the use of digital and mobile technology devices and services;
4. Interest in using technologies for literacy learning purposes (e.g., vocabulary), focusing on four media platforms: Facebook, Twitter, YouTube, and cell phone text messaging;
5. Students' self-perceptions of their English language skills.

### **Results**

The surveys were coded and analyzed using T-tests, and repeated measures analysis of variance (ANOVA). We excluded seven questionnaires which missed significant amount of information, and analyzed 524 surveys. Among the participants, there were 55% male (N = 290), and 45% female students (N = 234). These included 34% students in grade 6 (N = 178), 35% in grade 7 (N = 185), and 31% in grade 8 (N = 161). 21.15% of these students (N = 110) were born outside the U.S. 25% of students (N = 133) were identified as English language learners by the school who spoke 17 native languages besides English. These included Spanish, French, Vietnamese, Chinese (Mandarin and Cantonese), Portuguese, German, Arabic, Hindi,

Swahili, Yoruba, Serbian, Greek, Somali, Creole (Cape Verde and Haitian), Nigerian Igbo, Jamaican Patwa.

In this paper, we focus on the results, specifically for the four research questions. To answer Research Question 1: Do urban middle school students have access to digital and mobile devices and services? The results indicated that most of urban adolescent students from the school have access to cell phone, and desktop and laptop computers. For all devices but desktop computers, many more students had access at home than at school. There were significant differences in the percentage of students who had access to cell phones, Facebook, and Twitter as a function of grade. Although there is a minimum age of 13 for Facebook registration, many of 6 graders indicated that they had a Facebook account. In all cases, 8th graders had the most access. There were no differences in access to desktops, laptops, tablets or YouTube between grades. More female students (46%) than male students (31%) reported having Twitter accounts ( $p < .01$ ). No significant gender differences were reported for access to any other devices and services. See Table 1, Table 2, and Figure 1.

Table 1. Percentage of students with access to digital devices and services

Digital Device	Access	Home Access	School Access	Digital Services	Account
Desktop	84.2	69.6	59.8	Facebook	72.3
Laptop	75.1	75.4	9.1		
Tablet	34.6	33.7	4.5		
Cell Phone	90.5	90.3	24.7		

Figure 1. Percentage of students with access to digital devices and services.

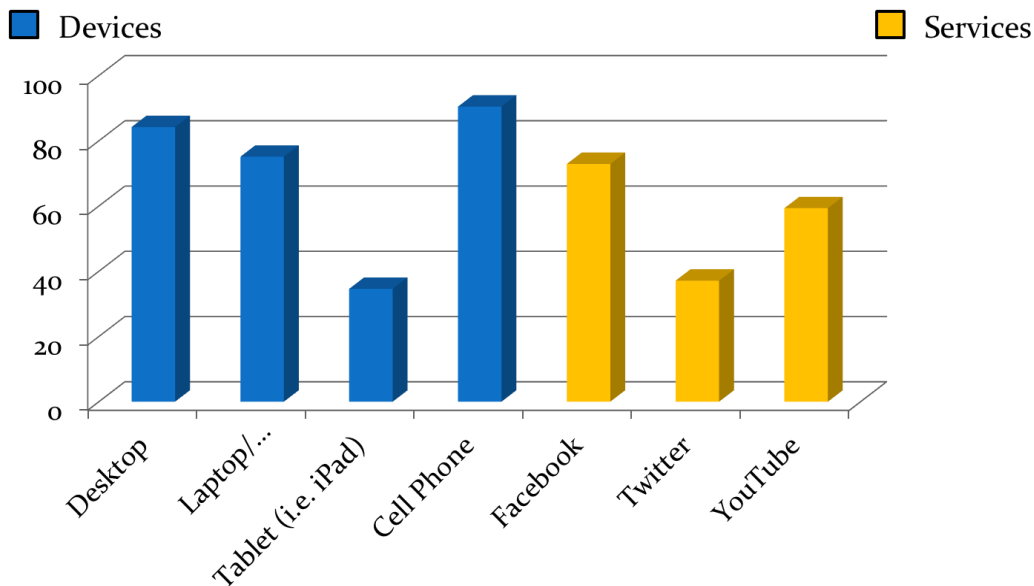
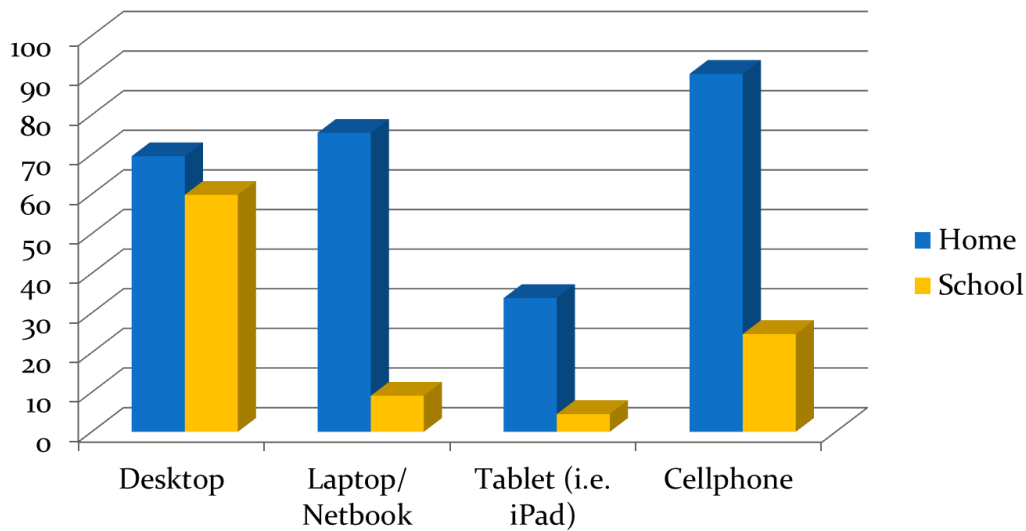


Table 2. Percentage of students with access to digital devices and services

Grade	Cell Phones	Facebook	Twitter
6th	90%	64%	39%
7 <sup>th</sup>	88%	69%	31%
8 <sup>th</sup>	<b>91%</b>	<b>87%</b>	43%
p-value	< .05	< .05	< .05

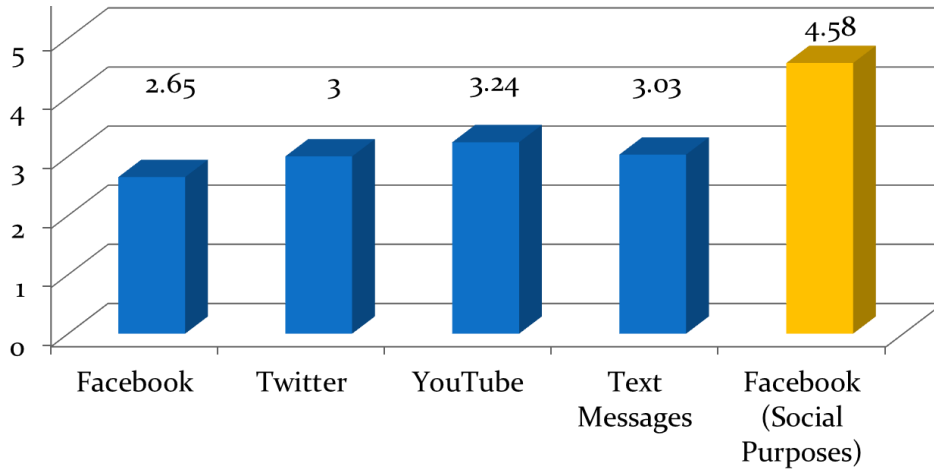
To answer Research Question 2: do these students have differential access to technology at home and in school? The differences in students' access to laptop, Tablet and cellphone in the two settings were statistically significant. Except for desktop computers, many more students had access to laptop, netbook, tablet (i.e., iPad) and cellphone at home than at school. See Figure 2.

Figure 2. Percentage of student access to technology at home and school.



To answer Research Question 3: Are students interested in using digital and mobile technology for the purposes of learning? The findings showed that students expressed different moderate levels of interest in using technology for literacy learning purposes. Regarding using four platforms for learning, they were least interested in Facebook and most interested in YouTube, though they were much more interested in using Facebook for social purposes than using Facebook (or any other technology medium) for learning purposes. Pairwise comparisons revealed that all differences were significant ( $p < .05$ ), with the exception of the Twitter and text messaging difference. See Figure 3.

Figure 3. Interest in using technology for literacy learning as measured by 6-point Likert scales.



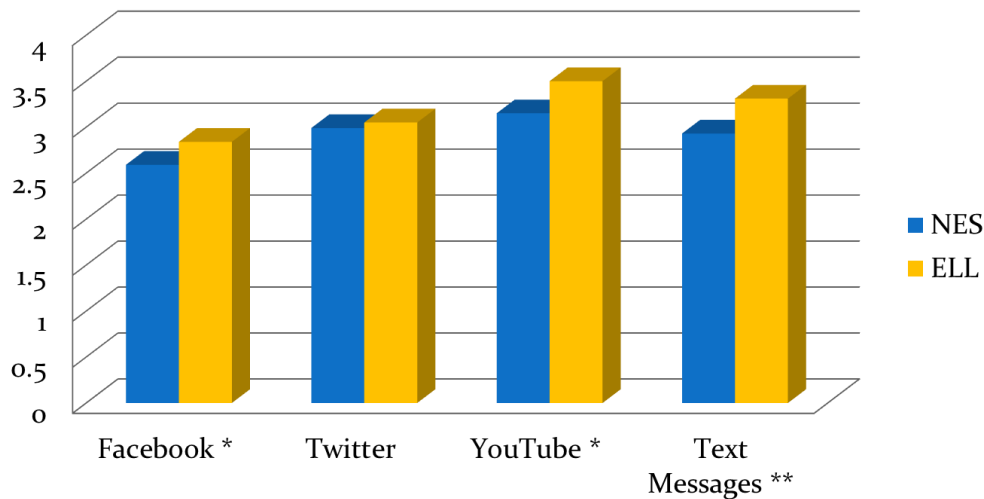
There were no significant differences between male and female students in interest for using any of the four platforms for literacy learning. Sixth graders expressed significantly more interest in using Twitter for learning than seventh graders ( $p = .01$ ). No grade-level differences in interest in using the other three platforms (Facebook, YouTube, text messaging) for learning approached statistical significance. Please see Table 3.

Table 3. Interest using technology for learning by grade levels.

Grade	Mean Interest
6 <sup>th</sup>	3.21
7 <sup>th</sup>	2.74
8 <sup>th</sup>	3.02

To answer research question 4, are there any differences in the interest and access between English language learners (ELL) and native English speakers (NES)? ELLs were generally more interested in using technology for learning purposes. This difference was significant for text messaging, and the differences for Facebook and YouTube also reached marginal significance. Please see Figure 4.

Figure 4. Interest in using technology for learning between NES and ELLs by 6-point Likert scales.



Note: \*Marginally significant (p=0.58), \*\*significant (p=0.2)

### Discussions and Conclusions

Contrary to the findings of Eamon (2004), our survey results indicate widespread use of digital and mobile devices among adolescents from lower SES in the urban school. This is not surprising, given the increasing availability of technology in the past decade. More students have access technology resources at home than they do at the school, which is consistent with the findings from some earlier studies (e.g., Spires, Lee, Turner & Johnson, 2008). Student’s limited access to mobile technologies reflects the school policies restricting use of cellphones and other mobile devices, as well as the lack of technology resources provided by the school. Older students’ higher levels of access to Facebook could be due to Facebook’s policy of restricting access to users under the age of 13.

Students reported less interest than expected in using technology for literacy learning, with mean scores falling in only the “somewhat interested” range of the scale. Despite the popularity of Facebook accounts and high student interest in using the site to communicate with their peers, they expressed relatively low interest in using Facebook as a learning medium. This may suggest that students view Facebook positively, but do not see it as a platform for school-related activities. Students were most interested in using YouTube for the learning purpose. Such high interest could reflect students’ familiarity with learning through videos, the engaging nature of multimodal (i.e., visual and audio) learning, and availability of instructional YouTube videos. Across all four media platforms, ELLs reported higher levels of interest than native-English speaking students in using social media for learning purposes. This could be related to their learning preferences at the initial silent period when they are struggling with language production, as well as their motivation to improve their English language skills through multiple exposures which they may often not have in the home environment.

Based on the preliminary findings, we conducted focus groups with teachers and students in each grade level to determine: 1) Why students prefer to use certain devices and services over others; 2) What features of social media, such as Facebook, do teachers and students view as

particularly desirable and/or undesirable for learning; 3) How teachers and students feel about using text messages as an educational medium, despite the current policy banning cell phone use in school. The results derived from the focus groups will be reported to the academic and professional community shortly.

As a result of students' high student interest in using YouTube for learning purposes, we designed an academic vocabulary intervention using video clips of student debates. We currently documented and edited exemplary debates with annotative notes using moviemaking software to highlight words that students need to learn and, most importantly to show them how to use the words meaningfully. It is expected that high quality short films showing students' debates using academic words will provide a model – a sort of virtual coach – to their peers with weaker literacy skills or at lower grade levels. The model will support mastery of the debate genre that will ultimately enhance their learning of vocabulary, reading of academic texts, and expository writing, with positive consequences for their studies of subject content areas. Given the students' limited access to technology at school, the current intervention will be designed for use in both home and school settings.

In summary, more data is needed to substantiate our findings. We will administer the survey to approximately 500 more students at another urban middle school in Boston. Nevertheless, the preliminary results showed that the higher levels of access to cell phones, Facebook, and Twitter among 8th grader students suggests interventions may be more easily implemented for these students than their younger peers. Higher levels of interest among ELLs suggest technology-based learning interventions may lead to more success in this student population. Video-based language activities show promise as a means to provide additional support for urban adolescents to improve their academic language skills, through enhancing their learning opportunities in a more feasible way and in their home environments where academic English language may not often be used.

### **Acknowledgements**

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**Exploring Facilitation Stages and Facilitator Actions in an Online/Blended  
Community of Practice of Elementary Teachers: *Reflections on Practice* (ROP)**

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**Abstract**

Online and/or blended communities of practice (CoPs) hold much promise as an innovative and empowering medium through which teacher professional development can be fostered and nurtured. While it is generally recognized that facilitators play a crucial role in online CoPs, relatively little is known about the actions that facilitators take to support their participants towards successful online CoP experience (Lai, Pratt, Anderson & Stigter, 2008; Johnson, 2001). The original research study that acts as a platform for the redesign of an online CoP that uses social networking tools, begins from previous research on knowledge construction and e-moderating ((Bereiter & Scardamalia, 2003; Carmean & Haefner, 2002; Gan & Zhu, 2007; Salmon, 2006, 2007; Scardamalia, 2002, 2003) and in particular draws from Murphy's work on online asynchronous collaboration (2004), in order to create and then later test and develop a spiralling, inverted pyramid conceptual framework of Facilitation Stages and Indicators (Hyland, Millar-Grant & Rodrigue, 2008). Facilitators in this study hailed from a blended (face-to-face and online) ongoing community of practice entitled Reflections on Practice (ROP), hosted by the Elementary Teachers Federation of Ontario, that supports elementary teacher personal and professional growth through action research.

This paper identifies the elements of our learning journey on how to facilitate online CoPs using social networking tools. Through the voices of the researchers and two distinct groups of facilitators, we identified our learnings and gaps we believe still exist in our collective quest to make Reflections on Practice an “ideal knowledge structure—a social structure that can assume

responsibility for developing and sharing knowledge” (Wenger, McDermott & Snyder, 2002, p.29).

### **Introduction**

Online and/or blended communities of practice (CoPs) hold much promise as an innovative, empowering medium through which teacher professional development can be nurtured. While it is generally recognized that facilitators play a crucial role in online CoPs, relatively little is known about the actions that facilitators take to support their participants towards successful online CoP experiences (Lai, Pratt, Anderson & Stigter, 2008; Johnson, 2001). Some insights can be gathered from studies on the role of facilitators in online courses or online discussion groups (Wang, 2008; Salmon, 2006, 2007); however, research that specifically explores and primarily reports on the role of facilitators in online communities of practice is scarce. One must resort to reviewing studies that investigate other research questions relating to online communities of practice, and within such studies, search for brief mentions and/or statements of tangential findings (as opposed to main findings) about the role of facilitators in such contexts.

While “little empirical research has been conducted on online CoPs and even fewer studies were related to the use of online CoPs related to teaching and learning” (Lai, Pratt, Anderson & Stigter, p.50), the researchers conclude that it is generally recognized that the facilitator is vitally important to the success and sustainability of the online community of practice. “The role of the online moderator was identified as critical in sustaining the online community over an extended period and enhancing the learning function (Lai et al., p.58).

While investigating the process of informal learning in an online community of practice united by a professional association, Gray (2004) similarly reported on the importance of the facilitator in online communities of practice as the moderator’s role was absolutely critical in starting up, supporting and sustaining the online community of practice.

A study conducted by Tarmizi, de Vreede, and Zigurs (2007) provided a taxonomy of the role of facilitators of co-located communities of practice and found that participation was identified as the greatest challenge for facilitators. “Facilitators take on leadership roles within these virtual communities, yet little is known about the challenges related to their roles” (p.18). They contend that “technology should help facilitators in performing their duties in a CoP, including improving members’ participation” (Tarmizi, de Vreede & Zigurs, 2007, p.32).

Citing other studies, Tarmizi et al. suggest eight technology and design features that will help facilitators of online communities of practice to increase member participation but their suggestions for supportive design and technology are drawn mostly from an Information Communication Technology (ICT) perspective rather than an educational one. Likewise research on a course entitled “Facilitating an Online Community” contains no examination whatsoever of the role of the facilitator (Novak, Ponting & Bhattacharya, 2007), but instead focuses on the conceptual and technological design decisions taken in the development of a web-based hypermedia learning environment.

In *A Survey of Current Research on Online Communities of Practice*, Johnson (2001) notes that the greatest problem of such virtual communities is withdrawal or attrition, but that this can be reduced somewhat by “good facilitation techniques and adequate scaffolding” (p.45). The author does not define “good facilitation” nor “adequate scaffolding” but recommends further research on emerging online communities of practice as a means of doing so. An interesting tool for facilitators of online discussion forums is presented in *Assessing Social Presence in Online Discussion Groups* (Hughes, Ventura & Dando, 2007). Arguing that members’ emotional states

need to be addressed by facilitators of online communities, the researchers provide a coding template and examples of postings which facilitators can use to assess their progress at building group socialization and in promoting community and individual learning. The authors suggest that future researchers may find their coding template useful because it “may provide the basis for a diagnostic tool for identification of trends and the effectiveness of facilitators’ styles and techniques” (p.28).

### **The Study**

This qualitative study focuses on the actions of six facilitators in a blended (face-to-face and online) women’s only ongoing community entitled *Reflections on Practice (ROP)*, hosted by a Canadian elementary teachers federation, that supports elementary teachers towards personal and professional growth through action research projects. Teacher-participants are divided into six critical friends groups, and therefore, primary sources of data in this study were the actions of the six facilitators of these six groups within their online chats.

The theoretical framework for the facilitator’s role in Reflections on Practice (ROP) is based in part on previous research on knowledge construction and e-moderating (Bereiter & Scardamalia, 2003; Carmean & Haefner, 2002; Gan & Zhu, 2007; Salmon, 2006, 2007; Scardamalia, 2002, 2003) but particularly draws from Murphy’s (2004) work on online asynchronous collaboration and her conceptual framework for collaboration in an online asynchronous discussion. Murphy conceptualized collaboration as a continuum of processes, and developed an instrument with six stages for the purpose of identifying and measuring online asynchronous collaboration: (1) social presence (2) articulating individual perspectives (3) accommodating or reflecting the perspectives of others (4) co-constructing shared perspectives and meanings (5) building shared goals and purposes, and (6) producing shared artefacts. Murphy’s work did not specifically aim to examine the role of facilitators per se, but her conceptual framework was seminal in providing a solid conceptual foundation that we believed could be applied to the actions of facilitators. However, in our opinion, the role of the facilitator shaped the production of shared artefacts and we inverted the pyramid. We developed specific indicators and verbal examples of indicators to provide further elaboration and evidence of these six stages and arrived at a “spiralling, inverted pyramid” conceptual framework of *Facilitation Stages and Indicators* (Hyland, Millar-Grant & Rodrigue, 2008). The main guiding questions were: What facilitator actions guide the participants in their learning journeys? What facilitation stages, if any, do facilitators go through as they support participants in their action research projects?

### **Research Methodology**

An underlying research philosophy embraced throughout the study was the concept of emergent design in which research is viewed as being in a continual state of evolution and change (Creswell, 2007). The idea of crystallization – in which research is viewed through a variety of shapes, transmutations and angles (Richardson & St. Pierre, 2005) for innumerable interpretations of data – was adopted early on in the analysis.

A total of 44 online chats from August 2008 to May 2009 were analyzed using NVivo8 qualitative research software (Bazeley, 2007; Richards, 2006). However, since the first six August 2008 chats were of a technical nature, in actuality 38 chats were analyzed for the content of Facilitator Actions.

The statements were coded according to the *Facilitation Stages and Indicators* conceptual framework (Hyland et al., 2008) consisting of six Facilitation Stages containing a total of 110 Facilitator Actions (Indicators). An important goal was not to bend the data to fit into the *Facilitation Stages and Indicators* conceptual framework but rather first to see whether or not such a theoretical framework was indeed a good fit, and secondly, what insights could be gained from using it as a research tool throughout the inquiry. Five “new” indicators not in the original *Facilitation Stages and Indicators* conceptual framework were created “in-vivo” (Bazeley, 2007; Richards, 2006) as the data analysis proceeded, but as these five new indicators did not prove to represent frequent facilitator actions, no revisions were made to include them in the conceptual framework.

The data from the online chats was reviewed and coded according to these 110 Facilitator Actions (nodes) for a total of 4236 references. Usually an online utterance/statement by a facilitator was coded several times and therefore represented more than one Indicator, but there was some variation in this matter. For example, a Facilitator Action could be coded as representative of anywhere from 1 to 6 or so Indicators. Therefore, the total number of references is greater than the number of Facilitator Actions (online utterances/statements). Although we divided the data analysis into preliminary and final results, for the purpose of this article we will report only on the final results.

### **Boundaries of the Study**

Every research endeavour has its own particular boundaries. The most obvious boundary of this study is the possibility of variation in interpretations of coding as the same Facilitator Action (online utterance/statement) may be coded as representative of a particular Indicator by one researcher whereas another researcher might have coded the exact same Facilitator Action (online utterance/statement) as being representative of a completely different Indicator. At the beginning of the data analysis process, the research team shared common understandings of Facilitator Action/Indicator meanings so that coding would be as consistent as possible.

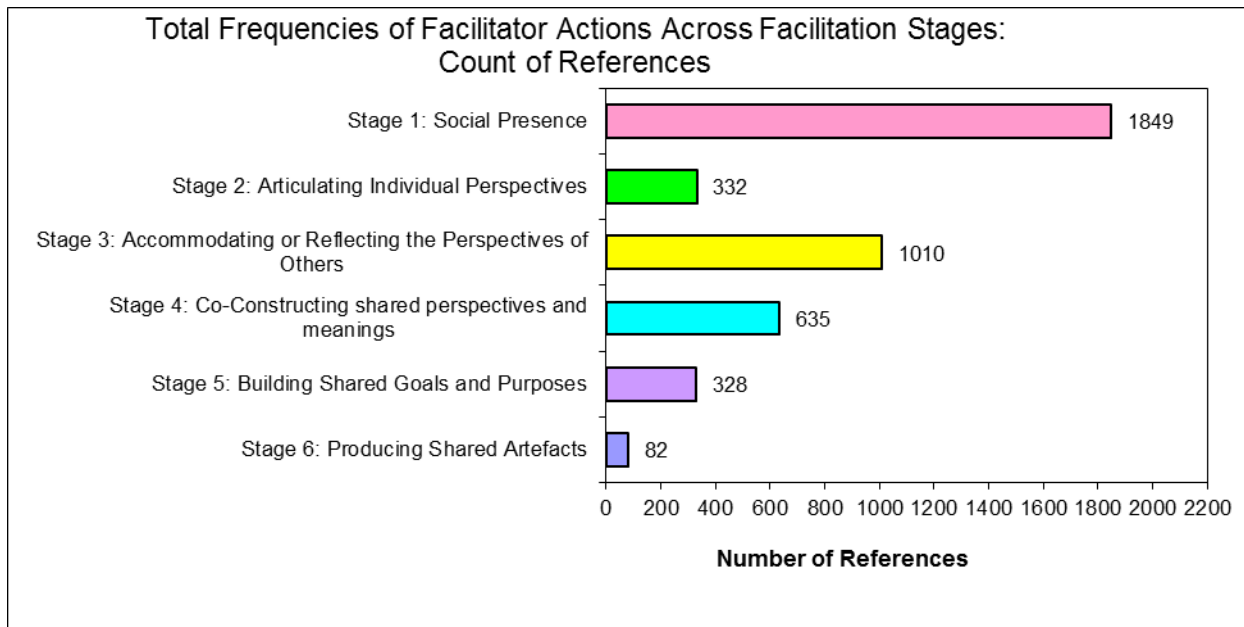
Nevertheless, there will be some coding differences due to subjective interpretations of facilitators’ words. However, this variation is likely to be at least partially offset by the fluid and global rather than rigid and restrictive nature of the *Facilitator Stages and Indicators* conceptual framework itself. It was created as a visual descriptive representation of possible Facilitation Stages, not as an exact and prescriptive mandate to follow. Thus, while there may be some coding inconsistency within the more narrow and individual *Indicators*, the overall findings on Facilitator Actions can still direct us towards a broad and general understanding of the wider *Facilitation Stages*.

The “women’s only” nature of *Reflections on Practice* (ROP) likely influenced this community of practice in ways that are probably both known/visible/audible and unknown/invisible/silent to the research team, the facilitators, and the teacher-participants. This current study, though, did not investigate the role of gender in Facilitation Stages and Indicators. As such, this current ROP study would be ripe with abundant data for yet another study but with the new perspective of gender analysis (Caspi, Chajut & Saporta, 2008).

### **Final Results from Data Analysis of all Online Chats**

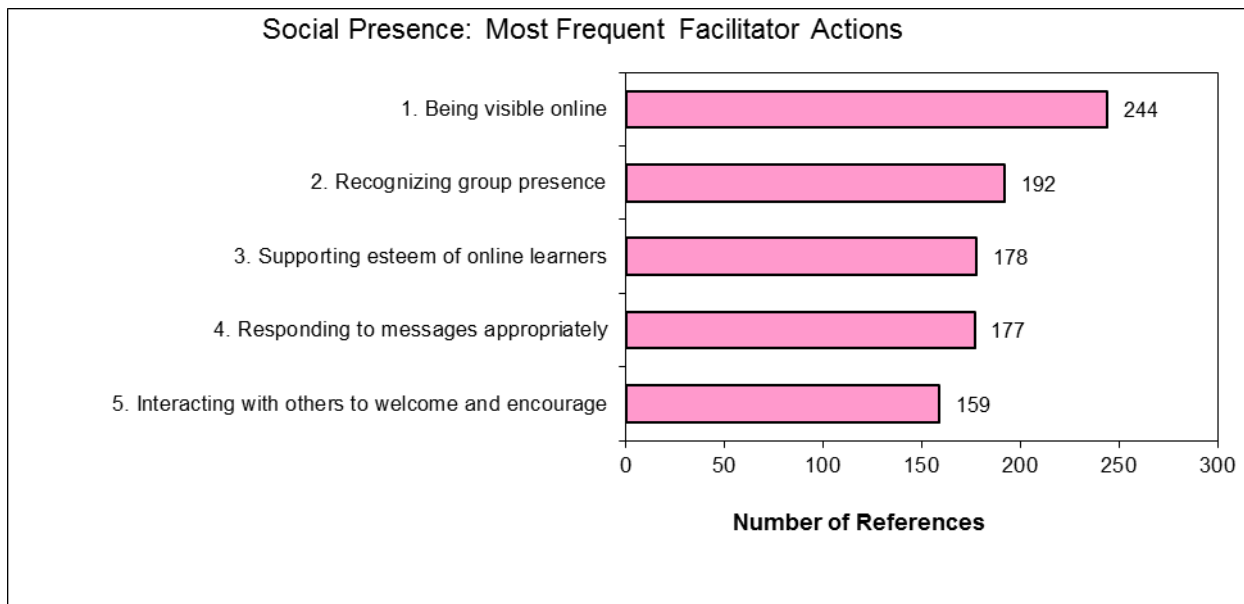
A final data analysis was conducted on all 38 online chats (held between August 2008 and April 2009). Figure 1 indicates the frequencies of the Facilitator Actions that occurred within the facilitation stages.

Figure 1. Final Results of Facilitator Actions Across Facilitation Stages.



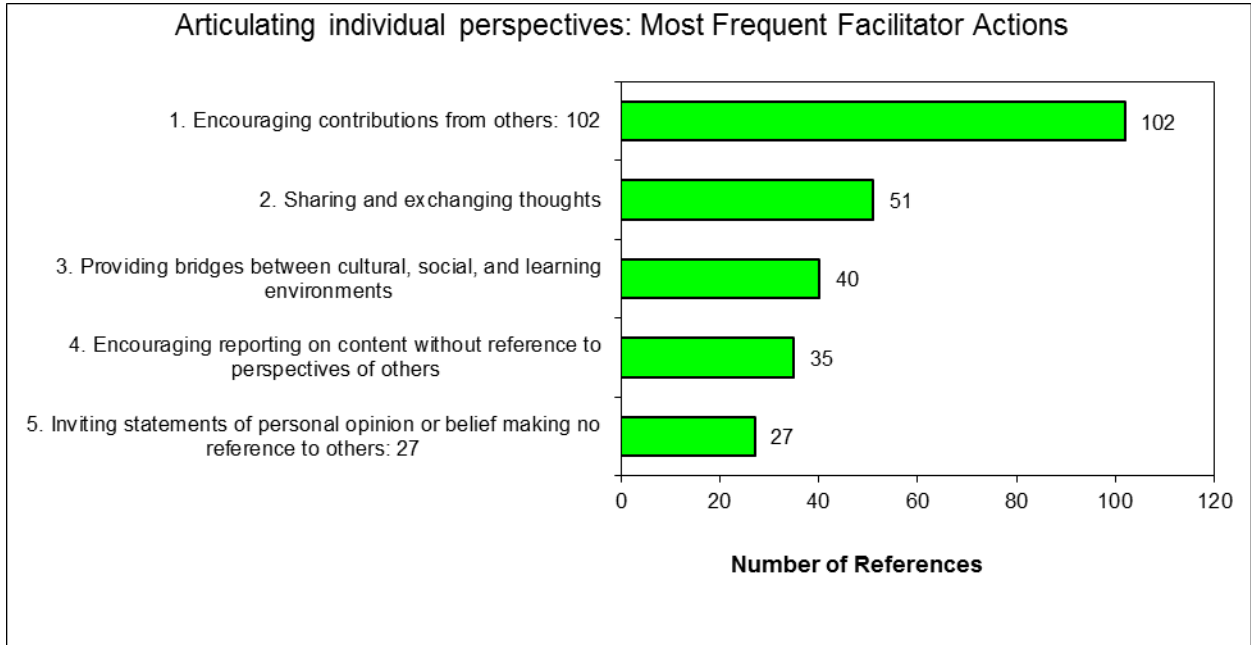
Stage 1: Social Presence

Figure 2. Final Results on Social Presence.



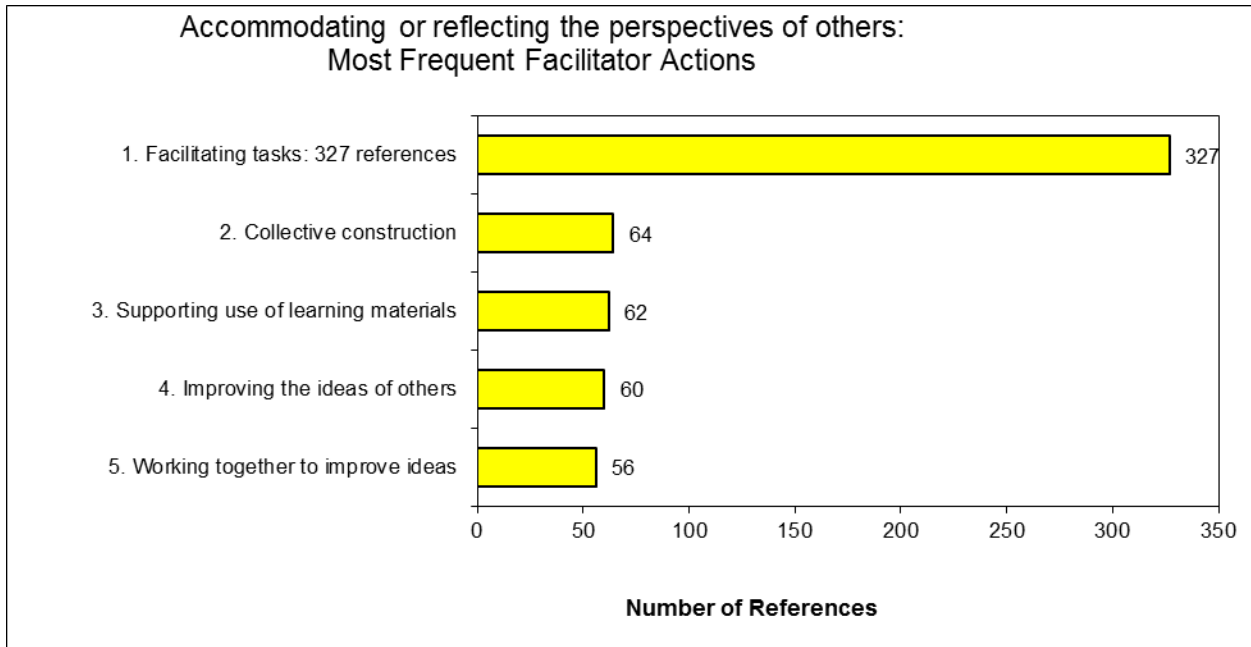
Stage 2: Articulating Individual Perspectives

Figure 3. Final Results on Articulating Individual Perspectives.



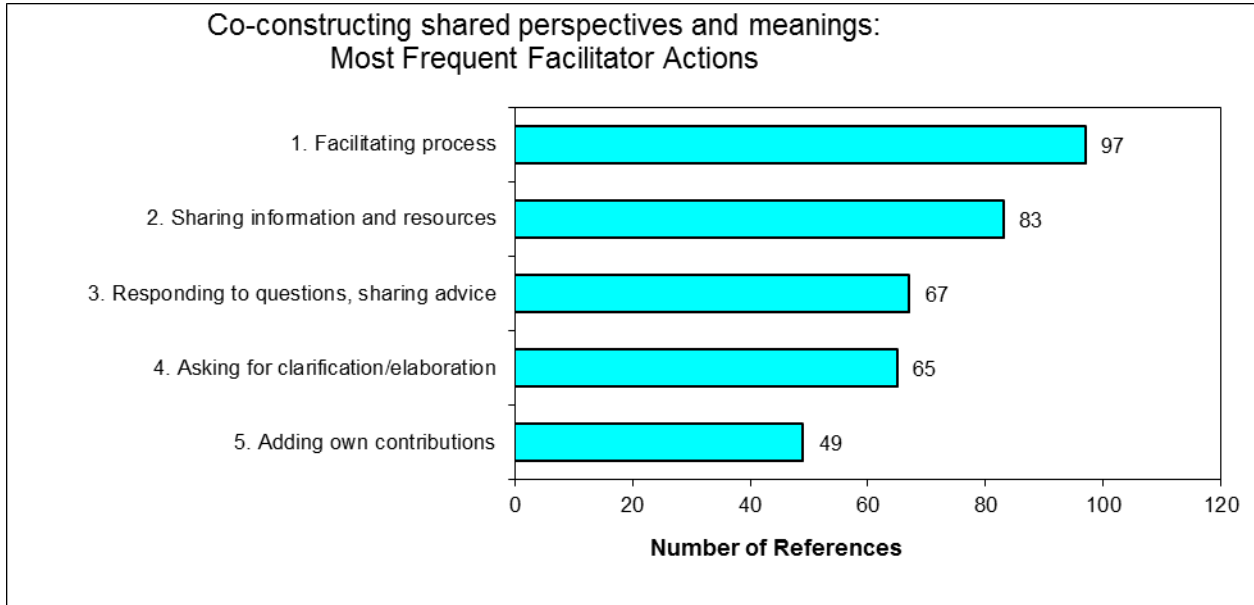
Stage 3: Accommodating or Reflecting the Perspectives of Others

Figure 4. Final Results on Accommodating or Reflecting the Perspectives of Others.



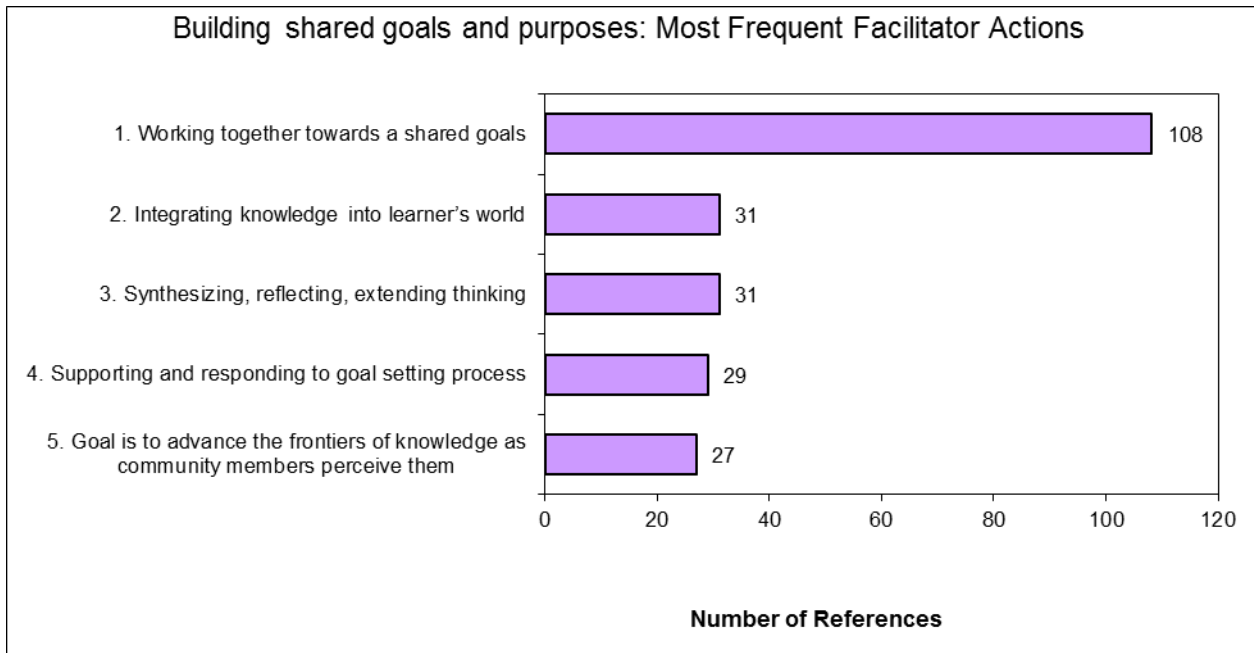
Stage 4: Co-Constructing Shared Perspectives and Meanings

Figure 5. Final Results on Co-Constructing Shared Perspectives and Meanings.



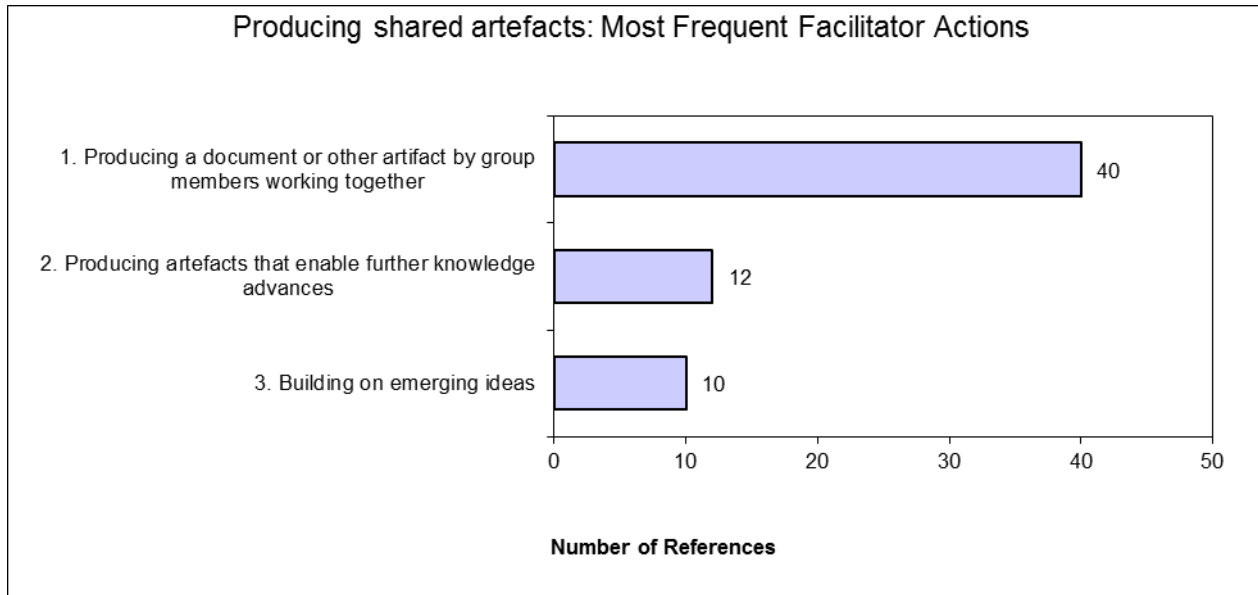
Stage 5: Building Shared Goals and Purposes

Figure 6. Final Results on Building Shared Goals and Purposes.



## Stage 6: Producing Shared Artefacts

Figure 8. Final Results on Producing Shared Artefacts.



### Revisiting the Framework of Facilitation Stages and Indicators and Possible Future Paths

The primary purpose of this study was to develop and test a “spiralling, inverted pyramid” conceptual framework of *Facilitation Stages and Indicators* (Hyland, Millar-Grant & Rodrigue, 2008) in order to explore e-moderating skills and competencies. The data from the 38 online chats was not “bent” and indeed did not need to be “bent” to fit this conceptual framework. With a profuse total of 110 nodes for the research team to select from, the process of data analysis was not, by and large, restricted by its conceptual framework. There were some instances, however, when the data did not quite fit and so some codes/nodes were created “in-vivo” (Bazeley, 2007; Richards, 2006). For such instances, the following five “free nodes” were created: “Clarifying any task confusion,” “Offering help or confirming understanding,” “Keeping on task,” “Reassuring any worries, concerns” and “Cheerleading the team.” However, in the final analysis, these five free nodes/codes turned out to be coded very infrequently and had low reference counts and thus, it was deemed unnecessary to incorporate them into the conceptual framework.

It is important to emphasize here that this research is just the beginning of the inquiry and therefore, the conceptual framework will likely continue to be tweaked and revised as our knowledge and understanding around the facilitation and e-moderating of online communities of practice continues to evolve. Certainly, though, the Facilitator Actions that appear in the five top most frequent categories would need to be included in any future versions of the conceptual.

This research further could be pursued further especially if a comparative approach is adopted. As noted in literature review, research on the facilitation of online communities of practice is relatively scarce; however, fortunately there are a small handful of studies that could provide opportunities for some in-depth comparison work. For example, it may be valuable to conduct an even deeper comparison of the facilitation competencies and strategies suggested in our conceptual framework (Hyland, Millar-Grant, and Rodrigue, 2008) with the facilitator

competencies and strategies, especially that of “framing, asking questions and reframing information,” suggested by the work of Williams et al. (2001, p.163).

Another possibility is to compare the *Facilitation Stages and Indicators* conceptual framework (Hyland, Millar-Grant & Rodrigue, 2008) with “Figure 1: Facilitation Tasks Taxonomy” in the work of Tarmizi, deVreede, and Zigurs (2006, p.4) and/or to “Table 3: Facilitation Interventions in Virtual Groups” of Milton and Watkins (2005, p.1290) as well as to “Figure 1: Framework of core facilitator competencies” of Kolb, Jin, and Song (2008, p.6). It may also be illuminating to compare the instances of alignment between the six stages in our *Facilitation Stages and Indicators* (Hyland, Millar-Grant & Rodrigue, 2008) and Wang’s (2008) framework of facilitation in online discussions. For example, Wang’s “Social” category aligns with our Stage 1 (Social Presence) and Stage 2 (Articulating Individual Perspectives). One could also explore why Wang’s work places more emphasis on technical/managerial facilitation skills than does the Hyland, Millar-Grant, and Rodrigue spiralling inverted pyramid conceptual framework (2008).

### Conclusions

The inquiry was very well served by having adopted the research philosophy of evolving, emergent design (Creswell, 2007) as well as the crystallization metaphor of viewing the data as possessing an infinite variety of shapes, transmutations, and angles (Richardson & St. Pierre, 2005). Among other benefits, such a fluid research structure made it easier to embrace the facilitators’ April 2009 feedback on Preliminary Findings and to follow up on their suggestion of analyzing the data chronologically as sets of chats over time.

This study, therefore, can help to fill the gap in the literature by contributing several interesting insights to the discussion. The *Facilitation Stages and Indicators* conceptual framework (Hyland, Millar-Grant, and Rodrigue, 2008) proved to be a useful tool for exploring Facilitator Actions in the ROP online chats. By and large, the data fit well into its 110 Indicators. Future research steps may compare this conceptual framework with the work of others (Kolb et al, 2008; Milton & Watkins, 2005; Tarmizi et al., 2006; Wang, 2008; Williams et al., 2001).

The conceptual framework will likely be continually revised as our understanding around the facilitation and e-moderating of online communities of practice continues to evolve. Certainly, though, the Facilitator Actions that appear in the five top most frequent categories would need to be included in any future versions of the conceptual framework.

This current research categorizes and explores Facilitation Stages and Facilitator Actions; it is therefore descriptive rather than prescriptive. However, rich detailed description of current practice is a first step towards future development of guidelines for best practices in the facilitation of online CoPs. Next research steps will continue to welcome feedback from facilitators as their professional wisdom, feedback, and insights are crucial to all future inquiry.

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***Teaching and Learning Online:***  
**One Faculty's Experience with a Course Designed  
to Support Beginning Teachers' Use of the Web**

**Geoffrey Roulet**  
**Queen's University**

**Introduction**

What if: A 21<sup>st</sup> Century Classroom Scenario

The 20 students filing into Nora Smith's history classroom each grab a random netbook off the rack and head to their assigned four-student team station. Jack sits at his assigned space, plugs in his netbook using a username and password. The central server's database recognizes that Jack is in history class and identifies the three other members of his student team... Jack notes that today's lesson is titled "The Life of Louis Riel."

...

Jack's team and the other teams in the class move on to working on presentations. The results are lively and reflect the students' ease in integrating technology into how they learn... Jack's group is well on its way to completing a 10-page PowerPoint presentation that incorporates images and video. The team knows that this is not an exercise in cutting and pasting, but a task involving creating the framework for an argument and using multimedia and Internet sources to back that argument up.

(Ontario Public School Boards' Association, 2009, p. 4)

The above paragraphs are an excerpt from the opening page of *What if: Technology in the 21st Century Classroom*, a discussion paper issued in the spring of 2009 by the Ontario Public School Boards' Association (OPSBA). This "Classroom 2.0," a fiction presented to illustrate the OPSBA's vision of school activity in the very near future, pictures the Internet being used to break down the walls of the classroom permitting students to access information sources, collaborate over networks, during class hours and beyond from home; and parents to virtually visit to observe and interact with their children's work. There is no doubt that the technology to support such online collaborative learning is presently available, although possibly not assembled in many schools. The discussion paper acknowledges that teachers are key to the realization of this dream, but also notes potential resistance since many entered the profession before digital devices heavily populated our world and lives. The OPSBA puts its faith in "new teachers, who have little recollection of a world without the conveniences of an array of software and the ever-available Internet" (p. 11). This image of those presently entering the teaching profession echoes those of the "net generation" (Tapscott, 1998) and "digital natives" (Prensky, 2001) introduced over ten years ago and now part of our culture through regular reference in the popular press.

Statistical analysis of digital traffic (comScore, 2011) shows that Canadians are among the most active users of the Internet and in the 15 to 24 year-old range, the population segment that holds most of the present and immediate future students in teacher preparation programs, Internet

use is virtually universal (98%). Thus the net generation image appears to be true. But, much of the web access by this age group involves downloading or viewing video (Statistics Canada, 2010) and visiting social media sites. In Canada during 2011, 97% of those ages 15 to 24 years participated in online social networking (comScore, 2011). Only a small portion of the time spent on the web by our faculty of education students has involved intellectual activities related to their school or university education. Few have employed the web for collaborative development of knowledge. Teacher candidates may not be opposed to using YouTube videos in their future classes and having their students contribute reactions in a Twitterfeed, but they have not thought about how to structure such activities to maximise pupils' learning.

### ***Teaching and Learning Online: A Bachelor of Education Course***

Recognizing the above trends in teacher candidates' online experience and the increasing power of the web to support educational activity, the Faculty of Education at Queen's University, in 2006, introduced a 3-credit course called *Teaching and Learning Online*. This elective program was designed to address the needs of teacher candidates interested in using web-based tools to enhance regular classroom-based schooling and also those considering teaching in the growing number of secondary school (i.e., grades 9-12) credits offered fully online through e-Learning Ontario, a branch of the Ministry of Education (<http://www.edu.gov.on.ca/elearning/>). A survey of academic calendars across Canada and data compiled by Michael Barbour, editor of the annual State of the Nation: K-12 Online Learning in Canada report, indicated that *Teaching and Learning Online* was the only pre-service course available with a focus on employing the web in teaching and learning (Barbour, 2008).

*Teaching and Learning Online* had two major foci: 1) principles for the development and conduct of courses or units delivered entirely via online instruction, and 2) classroom teacher use of online materials within and as an adjunct to regular school programs. The topics related to these themes (listed below) were blended during the 35 hours of course time.

#### 1) Online units/courses

- organising curriculum for online instruction
- presentation of online content
- development of online interactive materials for student engagement and learning
- development of online student collaboration activities
- organising and moderating online communication/discussion
- providing tutorials and student assistance online
- counseling and supporting students prior to and during online study.

#### 2) Online support for regular classroom teaching/learning

- locating learning objects available on the web
- construction of learning objects
- assembly of packages of learning objects
- using learning objects for classroom teaching and learning
- making learning objects available beyond class time
- development of course websites
- capturing classroom activity and displaying via the web
- examination of school board systems for support of online extensions of classroom activity.

Although the knowledge and skills listed above could be employed by a teacher at any grade level, and the original proposal for the course suggested that enrolment be open to all

teacher candidates, the Faculty opted to restrict access to those preparing to teach in the Intermediate and Senior Divisions (Grades 7 – 12). This policy reflected the Ministry of Education focus, through eLearning Ontario, on the provision of online secondary school credit courses. In fact, most of the teacher candidates who selected the course were more interested in classroom applications of the web and thus the content of the classes would have been appropriate for all B.Ed. students.

*Teaching and Learning Online* attempted to strike a balance between helping participants construct a research-based personal image of online learning and development of specific skills to support the enacting of their plans. During in-class and online sessions, participants explored and made presentations on teachers' present uses of the web, critiqued and expanded on these making reference to theories of learning and published studies, and collaboratively sketched out online learning environments for school subjects. Many course activities took place online and through this class members experienced how learning management systems (LMS) (e.g., Moodle), wikis (e.g., PBworks), and online tools for collaboration (e.g., CmapTools, Google Docs, TypeWithMe, VoiceThread) and conferencing (e.g., Elluminate Live) could support learning. In workshop sessions, participants learned how to build linked webpages containing text, graphics, images and video; construct simple interactive Java applets and Flash animations; set up a course in an LMS; and support student sharing via Adobe Contribute and wikis. Teacher candidates were encouraged to employ these new skills whenever possible during their 12 weeks of in-school practica, and course sessions explored and built on these experiences.

Focus courses, such as *Teaching and Learning Online*, at Queen's University involve, in addition to class time, a three-week Alternate Practicum, held each year at the end of March and beginning of April. During this time, course members worked with classroom teachers, supporting their efforts to employ the web; course developers, building online learning objects; public agencies (museums, health councils), constructing educational websites; commercial enterprises, developing online employee training materials; and teachers leading online credit courses. B.Ed. candidate participation in and assistance with activities were embraced in all settings except those offering credit courses within the eLearning Ontario program. Here, eLearning Ontario and school boards raised legal and administrative issues, and individual online teachers appeared to be reluctant to share their teaching space. Despite regular calls from the Ministry of Education and school boards for better information and communication technology (ICT) preparation of beginning teachers, these official bodies were not very cooperative in providing teacher candidates with productive experiences, and most practicum placements were arranged individually with adventurous classroom teachers and non-school agencies.

Assessment in *Teaching and Learning Online* was based on students' contributions to the online collaborative activities, completion of the laboratory tasks, and most significantly the development of an online learning object or environment for use in one of their teaching subjects or such products produced during their Alternate Practicum. In a number of cases, school placements provided field testing and consultation with classroom teachers that led to revision and strengthening of these final course projects. Teacher candidates found it particularly rewarding when host sites made their products part of ongoing and continuing programs.

### ***Teaching and Learning Online: Decline and Fall of the Course***

Readers have likely noted the use of the past tense in the preceding text. This is deliberate as the *Teaching and Learning Online* course is not presently offered at Queen's University. In the first three years enrolment in *Teaching and Learning Online* averaged 19 students;

approximately 6% of the available population. During the 2009-10 academic year, the course drew just 14 teacher candidates, one below the Faculty's cut-off number. The survival of elective courses at Queen's, as at most universities, depends upon their drawing power relative to other offerings. In September 2010, when just 4 students registered, the *Teaching and Learning Online* course was suspended and the Faculty has not attempted to mount it since then.

Each academic year, as teacher candidates discover the school system's desire for new teachers who can effectively employ ICT tools, there is a demand for additional opportunities to learn about using school oriented digital tools and online resources. Regularly, the Faculty is forced to cap registration in workshops focusing on the operation and application of specific ICT tools. But, despite this apparent interest and need, teacher candidates appear to be reluctant to commit to a course such as *Teaching and Learning Online*.

### **Possible Reasons for Teacher Candidate Choices**

We have not conducted formal research into the reasons for teacher candidate selection or non-selection of a course such as *Teaching and Learning Online*, but conversations with students and a recent faculty survey suggest some interesting perceptions and contradictions. A December 2011 questionnaire administered by e-Learning Services of the Faculty asked if instructors sensed a "digital divide" among teacher candidates. Over 50% of the faculty felt that some students were running considerably behind their peers in terms of ICT usage, and by a ratio of 3 to 1, they attributed this difference to a lack of skills rather than access to computer hardware. At first glance, this perception might seem to conflict with the data that suggests that essentially all teacher candidates have experience using the Internet, but faculty are interested in ICT abilities beyond those required for accessing social media and text messaging friends. They expect their students to bring skills that could support exploring classroom ICT applications that promote pupils' learning. It would appear that teacher candidates' prior experiences in this direction are rather limited.

In fact, conversations with B.Ed. candidates suggest that their experience with social media is a negative when it comes to imagining applications of the web in teaching and learning. Having explored sharing of personal information via *Facebook*, by far the most popular social media site for Canadians (comScore, 2011), a significant number have, by extension, come to the conclusion that the web is not an appropriate place for conducting educational communication and collaboration. Many, in defending their rejection of online activities, point to the Ontario College of Teachers (2011) recent statement advising against teacher-student interaction via social media.

For a smaller number of beginning teachers experience with social media leads to an embrace of the web for teaching and learning. But, imagining that such school applications involve activities parallel to their interactions with *Facebook* and *YouTube*, they see little need for enrolment in a course exploring online teaching and learning and increasing their skills with web-based tools.

The issues involved in these constrained images of educational applications of the web extend well beyond the untimely demise of the *Teaching and Learning Online* course. We appear to be caught in a "chicken or the egg" dilemma. Schools are counting on young beginning teachers to mount productive online activities for their classes. Faculties of education can present examples of these within their courses, but until teacher candidates actually have experience with school pupils effectively engaged with the web they are not likely to begin

imagining the possibilities. There is a need for school practicum placements that provide rich experiences using the web in teaching and learning.

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## **Schools, Teachers, Training, Victims, Prevention and Community: A Cyberbullying Collage**

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We should know by now that bullying often “involves a powerful person intentionally harming a less powerful person repeatedly . . . [and] new methods of bullying, including sending harassing emails, instant messages, text messages, and personal pictures to others [are increasing]” (Wade & Beran, 2011, p. 44). The error herein is to confuse traditional bullying with cyberbullying, since cyberbullying is unlike traditional bullying, transpiring in cyberspace via the Internet, and is used as a weapon against others (Zoldy, Zoldy, Ryan, & Zoldy, 2011). Our own Government of Canada (2001) responded over a decade ago by publishing, *Illegal and Offensive Content on the Internet: The Canadian Strategy to Promote Safe, Wise and Responsible Internet Use*. Referring to this document we learn what is illegal and legal online, however; how many people have read this, or even know of its existence? It is assumed, generally by all of us, that all users of the internet are responsible and ensure ‘safe, wise and responsible Internet usage’ (p.12). In fact we use the internet often without guidance, key information, or skills to protect ourselves, or others, hence problems emerge which frequently are outside of our laws, and harmful to all of us (Zoldy et al., 2011).

Researchers have turned their attention to this growing online phenomenon and its impact on youth in particular, since almost all youth are using the internet daily (Ryan, 2010). A recent study suggested we,

should focus on whether there is a differential effect of cyberbullying among boys and girls and students of different grades. We now know that there are small sex differences in the rate of cyberbullying experienced, but we do not know what effect this has on these students or whether increased experiences of cyberbullying translates to increased effect. It is possible that the forms of cyberbullying girls experience more frequently than boys lead to different consequences, or differences in the severity of the consequences, than do the forms that are experienced equally by both. Also, although the majority of significant grade differences were low in effect size, it is possible that cyberbullying affects students differently in different grades. For example, perpetrating bullying may enhance someone's perceived status in one grade while decreasing their status in another or being shunned in Grade 6 may be more difficult to cope with than it would be in Grade 11, when an individual has developed more self-reliance and social skills. (Wade & Beran, 2011, p. 59).

Whatever we choose to examine, we must be cognizant that today we are able to be more social than in the past. We have more communicative technology; we can access others at any time via email, webcam, bulletin boards, chat rooms, web-sites, blogs, twitter, face book pages and general social areas to share personal information (Ryan, 2010). Most of us carry a cell-phone that enables text-messaging, picture taking, sharing and traditional voice communications at the click of a button (Zoldy et al., 2011). Youth can similarly communicate their experiences

to others instantly, and it is this ability to share and publish our own, and other personal lives that creates issues and concern (Ryan, 2010). “As of September 2009, 93% of American teens between the ages of 12 and 17 went online, a number that has remained stable since November 2006” (Lenhart, Purcell, Smith & Zickuhr, 2009, p. 1). With most youth online there are some who cross the legal lines intentionally and/or unintentionally. Born between 1980 and 2001, some 70 million strong, Millennials or Generation Y are adept at technological communications instantly (Henderson & McVay, 2010, p. 92). Recent behaviours within social networks have given rise to cyber violence (Ryan, 2010). Many educators, researchers, and informed members of our community realize that,

Cyber violence and its most prevalent sub-form of cyber bullying is a very recent phenomenon. There is little material that explores the complexities of cyber abuse from an educational perspective. The most abundant scholarly writings on the subject have been from the legal perspective (i.e. policing and regulating of cyber crimes, the prosecution of cyber criminals), the technological area (i.e. prevention and detection software) and the discipline of psychology (i.e. study of human relationship, counseling of victims). (Hanewald, 2008, p. 3)

In Canada, the Criminal Code (section 298) that tells us it is illegal to publish a defamatory libel, which is defined as something that is likely to injure the reputation of any person by exposing him or her to hatred, contempt or ridicule, or that is designated to insult the person. It is a serious matter and we need to examine offenders and victims alike (Ryan, 2010). Recently in Canada,

a precedent in Canadian law, of a minor being held liable for threatening behaviour was set in the case of *Regina v. D.H.* In this case a minor named Dawn-Marie was being bullied at school. In fear of the threats made against her, Dawn-Marie Wesley took her own on life. In her suicide note she stated the names of her bullies. In 2002, Dawn-Marie's mother took the bully, a minor, to court, where the accused was found guilty of assault and was sentenced to 15 months of probation, and 20 hours of community service.

Although the accused was found guilty for violating Canada's Criminal Code section 264.1 (1) (a) - ASSAULTS - uttering threats, this type of legal action whereby a minor being held liable for bullying may very well be applicable to an internet bullying situation. One could possibly argue that the bully is assaulting their victim. Assault is defined as in section 264.1 (1) Every one commits an offence who, in any manner, knowingly utters, conveys or causes any person to receive a threat criminal code. In this sense, the web site creator is conveying a threat to the victim through threats made on the web site. (University of British Columbia, 2007)

The hostile student may “not only harm themselves but pose multiple challenges for school administration, teachers, and fellow classmates” (Crone & Horner, 2003, p. 3). This antagonistic orientation of many students can be linked to bullying both in person and in cyberspace (Ryan, Kariuki & Yilmaz, 2011). Bullying has grown from a school and neighbourhood problem to a global social uneasiness.

Victims of all bullying are all ages yet at the youth level bullying contributes to a number of other social and school-related problems such as suicide, mental health issues (depression), and in schools we see students who develop a sudden dislike of school, become truant, and become at-risk or dropout completely (Ryan, 2011). Educators may also see unexpected academic failure and aggression (Kaufman, 2006) in targeted students. People need to arm themselves with information, and know,

a bully may be charged for violating the Canadian Human Rights act Section 3. (1) For all purposes of this Act, the prohibited grounds of discrimination are race, national or ethnic origin, colour, religion, age, sex, sexual orientation, marital status, family status, disability and conviction for which a pardon has been granted. In addition, it is also discriminatory according to Section 13(1)(2) of the [Canadian Human Rights Act](#) to communicate hate literature about someone through the Internet. (University of British Columbia, 2007).

The bully and the victim in the classroom may reveal an affective and behavioural mode that is arguably dysfunctional; the educator in a classroom is “often overwhelmed and challenged by students with problem behaviour (Ryan, 2010). Teachers want to create schools that are places of learning, not places of constant struggle “(Crone & Horner, 2003, p. 3). A recent Canadian Broadcasting Corporation (2011) documentary explained how,

David Knight's life at school has been hell. He was teased, taunted and punched for years. But the final blow was the humiliation he suffered every time he logged onto the internet. Someone had set up an abusive website about him that made life unbearable. "Rather than just some people, say 30 in a cafeteria, hearing them all yell insults at you, it's up there for 6 billion people to see. Anyone with a computer can see it," says David. "And you can't get away from it. It doesn't go away when you come home from school. It made me feel even more trapped." He felt so trapped he decided to leave school and finish his final year of studies at home.

These days the internet is a crucial part of teenage culture. Kids can't imagine life without it. They run home from school and the first thing they do is log on. They "talk" for hours using instant messaging, bulletin boards and chat-rooms. But the chatter and gossip can spin out of control, slip into degrading abusive attacks. (p.1)

As a result an educator's goal of a healthy learning environment is undermined by technology due to the cyber-sociological tensions created by bullies online (Ryan, 2010).

## **Cyberbullying**

To review, cyberbullying occurs when people bully each other online using the Internet, mobile phones or other cyber technology as a weapon (Ryan et al., 2011). This can include sending mean text, e-mail, or instant messages; posting nasty pictures or messages about others in blogs or on Web sites; using someone else's user name to spread rumors or lies about someone (Ryan, 2010).

“Cyberbullying involves using communication technology to harass, intimidate, threaten, or otherwise harm others” (Hinduja & Patchin, 2010, p. 21). Cyberbullying has become a negative phenomenon that should be carefully dealt with since school children have methods for conducting cyber bullying such as mobile phone messages, instant messaging, chat rooms and e-

mail (Kowalski & Limber, 2007), that are indeed covert. Technology has briskly outpaced policy development within the last five years and as a result we have new problems, dilemmas and issues that need attention, new legislation and refined laws (Ryan et al., 2011).

## **Prevention**

The Government of Canada's National strategy on community safety and Crime prevention, established in 1998, was fashioned to support and assist victims including children, adults and minorities. Local school boards in Canada in concert with the Ontario Ministry of Education have published booklets on cyberbullying and contain resource sites with URL's, online safety guidance, definitions of cyberbullying, threat descriptions, reactive and proactive measures and means to collect evidence. Some useful sites include, [www.cyberbullying.ca](http://www.cyberbullying.ca) [www.netsmartz.org](http://www.netsmartz.org) [www.cybertip.ca](http://www.cybertip.ca) and [www.netbullies.com](http://www.netbullies.com) <http://www.bullyingcanada.ca/> The Ontario Ministry of Education has an online registry of anti-bullying programs that can be accessed via, <http://www.edu.gov.on.ca/eng/teachers/bullyprevention/registry.html> . At this site there are over 30 programs that will support efforts to deal with all types of bullying however as Li (2006) explained,

The nature of new technology makes it possible for cyberbullying to occur more secretly, spread more rapidly and preserve easily (such as cutting and paste messages). As this behaviour becomes recognized as a significant problem, researchers must provide information about its occurrence to inform and support educators and administrators. Considering that many Internet users are socially isolated (Mesch, 2001) and that some may even look for peer support on the Internet that incites them to act out in violence against their bullies (Beran and Li, in press), victims of cyberbullying may be at risk for experiencing poor psycho-social adjustment. Thus to support the appropriate use of technology in schools, teachers and administrators must be knowledgeable about cyberbullying, and as a result, develop appropriate preventive and intervention strategies to ensure the safety of all students. (p. 28)

“The British National Children's Home (2005) survey on bullying discovered that 58 % of students have not told their parents or any other adult about their online experiences” (Hanewald, 2008, p. 11). A means to illuminate school needs is to first survey students and teachers to identify the degree and type of bullying (Ryan, 2011; Whitted & Dupper, 2005).

Schools in North America provide multiple challenges for school authority due to the diverse populations and varied contexts, and yet some generalizations can be linked to the issue of bullying. Issues such as school climate, teacher awareness and intervention skills do play a role in the reduction of all bullying. The use of filters, education, and the law can only help all of us (Ryan, 2010). Li (2005) discovered during,

A survey of 177 grade seven students (80 males and 97 females) that ... almost 54% of the students were bully victims and over a quarter of them had been cyber-bullied. More than half of the students knew someone being cyber-bullied. Over 40% cyberbully victims had no ideas who cyber-bullied them. Further, there was a close tie among bullies, cyberbullies, and cyberbully victims. (p. 3)

Many programs and interventions have undergone extensive outcome analysis in an attempt to evaluate anti-bullying program effectiveness however some of, “the findings of the program evaluation were not what we expected, [so] we considered the data in others ways and thought about new ways to evaluate programs“ (Beran & Shapiro, 2005, p. 710).

### **Teacher Training**

Preservice is a time of intense study of teaching, instruction, curricula, policy, and administration (Ryan, 2009). Li (2006) has suggested the training falls short and further, that “although a majority of the preservice teachers understand the significant effects of cyber-bullying on children and are concerned about cyber-bullying, they do not think it is a problem in our schools” (p. 5). The Alberta study concluded: “A vast majority of our preservice teachers do not feel confident in handling cyber-bullying ... they do not know either how to identify the problem or how to manage it when it occurs” (p. 6). This study is only one of a few found in Canada as the research on cyber-bullying is minimal in this country (Brown, Jackson, & Cassidy, 2006). A recent study of preservice students (teachers in training) in Ontario found,

71.7% were aware that cyber-bullying is a problem in schools  
88.9% agreed that children are affected by cyber-bullying  
78.9% were concerned about cyber-bullying  
92% would do something if cyber-bullying occurred in school  
33% felt confident that they would be able to identify cyber-bullying  
15% were confident about managing cyber-bullying.  
49% viewed cyber-bullying as a topic, just as important as other topics covered in the teacher preparation program  
56% did not feel that the program had prepared them to manage cyber-bullying (Kariuki & Ryan, 2010, p. 14).

In the 2011 study, Ryan and Kariuki determined that

participants in this year two study have strongly suggested that cyberbullying is a problem in schools that affects students and teachers. Our sample did not believe they were confident in identifying nor managing cyberbullying yet they would try to do something anyway. Participants suggested that in comparison to other topics covered in the current teacher-preparation program, cyberbullying is just as important however they did not believe they were prepared to manage cyberbullying. In addition it was strongly indicated that teachers should use a cyberbully focussed curriculum to teach children which has activities and resources related to cyber-bullying. A school-wide approach is deemed best, using professional development for educators, school assemblies, and all students should receive counselling from community supports. As well, parents and community members need to be involved and messages should be put forward via such media as television to boost awareness, knowledge and concerns. (p. 13)

Student needs are diverse, just as the context, which is constantly shifting within the school and classroom landscapes, is assorted and wide-ranging. Raskauskas and Stoltz (2007) surveyed 84 adolescents,

regarding their involvement in traditional and electronic bullying. Results show that students' roles in traditional bullying predicted the same role in electronic bullying. Also, being a victim of bullying on the Internet or via text messages was related to being a bully at school. Traditional victims were not found to be electronic bullies. (p.1)

## **Victims**

Victims often have “miserable school lives; students who are bullied eventually might decide that the only way to retaliate is to resort to violence” (Manning & Butcher, 2007, p. 227). The research to date has uncovered a consistent trait pattern that places victims into two categories, passive and aggressive. However, there is a third type of victim and that is someone who is neither passive nor aggressive as Snider and Borel (2004) reported:

A fifteen year old boy in Quebec became an unwilling celebrity when a film he made of himself emulating a Star War's fight scene was posted on the Internet by some classmates. Millions downloaded the two-minute clip ... He was so humiliated he sought counselling [and dropped out of school], and his family has launched a lawsuit against his tormentors (p. 76).

## **Passive Victim**

The passive victims will rarely defend themselves or retaliate; they are physically weaker, close to their parents, anxious, insecure, and cautious and have low self-esteem (Manning & Butcher, 2007). The passive victim is sensitive and much quieter than other students. They carry a negative view of self and harbour a submissive reaction pattern. Insults are absorbed but not responded to and these behaviour lead to victimization (Ryan, 2010).

## **Aggressive Victim**

“A subgroup of victims reacts aggressively to abuse and displays a distinct pattern of psychosocial adjustment. These children ... display both anti-social behaviour of bullies as well as the social and emotional difficulties of victims” (Smith et al., 2005, p 741). They appear as “the most troubled, displaying the highest levels of conduct, school, and peer relationship problems (Smith et al., 2005, p. 760). As the reluctance to act in response or get revenge multiplies “this profile of dysfunction places these youth at high risk for violent, even deadly, reactions to chronic bullying” (Smith et al., p. 760).

## **Bullying: Motivations**

The gender variable does not predispose one to bullying and children who engage in this dysfunctional social system discover “long-term emotional consequences for both the victim and the bully” (Emmer et al., 2006, p. 190). The bully is largely situated in a social system or hierarchy in which there are assistants who facilitate bullying and onlookers who reinforce maladaptive behaviours (Smith et al., 2005). Peer audiences can often incite the bullying and indirectly encourage and reinforce bullying behaviours. Bullying most often occurs due to, differences between students, developmental processes, social cultural phenomenon, responses to peer pressure and a skewed perspective of restorative justice (Rigby, 2004).

## Peer Relations

One of the pillars in the construction of all anti-bullying programs is peer relations. Any improvement impacts student relations and behaviours underpinning bullying. “Specific factors include how students and teachers speak to one another” (Manning & Bucher, 2007, p. 227). Many programs hope to improve peer relations via agreement on school and class rules, class meetings to review and discuss rules, and inclusion of all stakeholders. School and class rules can smooth the progress of peer relations by providing clear standards and boundaries. Programs aim to alert and guide student relations to diminish isolation and exclusion. Consequences, for rule infractions and praise (coaching) for all students can lead to pro-social behavioural outcomes. Regular weekly or monthly participation in class meetings can increase openness and build cohesion in schools and classrooms. The topics may target school and class rules, peer relationships, and social skills. However, time to complete and even schedule meetings is a challenge in an already compressed curriculum. Class meetings are a priority as they can be used to improve peer relations and increase problem-solving abilities among students as lines of communication are constructed and utilized (Mishna, Scarcello, Pepler, & Weiner, 2005; Olweus, 1993).

Improving peer relations requires sombre dialogue with bullies, victims, school staff (teaching assistants), and parents (Zoldy et al., 2011). “In part, the positiveness of the school environment depends on the teachers’ classroom management, philosophies and strategies” (Manning & Bucher, 2007, p. 228). Research has also concluded that it is particularly essential in most situations where an incidence of bullying has occurred that educators communicate that bullying will not be accepted. Zero-tolerance in schools has gained popularity just to send this message however, it is by no means a problem solving mode and may actually add to the hostility the bully feels (Emmer et al., 2006).

As noted earlier, the “Government of Canada’s National strategy on Community Safety and Crime prevention, established in 1998, to help people deal with crime and victimization. In particular, emphasis was placed on children, youth, women, and Aboriginal people in this program” (Levin, Nolan, Kerr, & Elliot, 2005, p. 30). Educators would be wise to investigate this program as it is extremely important to be sensitive to each victim’s feelings of hurt, anxiety and fear. The Canadian National Strategy hopes to encourage resiliency in youth and build healthy learning environments (Levin et al., 2005). Victims usually fear retaliation and increased all bullying for speaking out to peers and authority figures (Emmer et al., 2006). When victims choose to disclose school staff need to be able to provide support and shield the child or youth from further maltreatment. Parents need to alert the school when any bullying occurs (Ryan, 2010). Victims may ask their parents not to alert the school as they fear retaliation and further harassment (Zoldy et al., 2011). Bullying and victimization are toxic to children’s health (Rigby, 2003). Victimized children tend to display internalizing symptoms, including

anxiety, depression, diminished self-esteem, and social withdrawal ... victims as a group show the highest rates of depression, rates of depression among bullies are still significantly higher than non-involved peer and bully and victim groups have equally high rates of suicidal ideation (Smith et al., 2005, p. 740).

Addressing bullying and working to enhance peer relations may require a meeting with the bully, the victim, parents and peers (Manning & Bucher, 2007). This can be followed by classroom meetings, social skills lessons, role-plays, and bully and victim enrolment in out of class

programs. Move quickly to confront bullying and meet with the bully and victim individually and in private to defuse tensions. The social skills and life skills lessons will meet their needs in years to come. All children should be involved in and taught of pro-social behaviours required for healthy daily life.

Bullies may well be unaware of proper behaviour in certain contexts and “sometimes they do not know how to make friends and resort to undesirable behaviours to gain attention and respect” (O’Donnell, Reeve, & Smith, 2007, p. 225). Whatever their needs are there is a program out there that claims to address these issues successfully. For instance, the PATHS program or Providing Alternative Thinking Strategies was developed to support and guide people as they form positive peer relations. PATHS help all students increase self-control, problem solving skills, and creative self-expression skills while focussing on feelings and relationships via interpersonal cognitive mechanisms (College of Health and Human Development, 2006). Results suggest the PATHS curricula augment each student’s ability to understand social problems, develop effective alternative solutions, and decrease the percentage of aggressive/violent solutions, and increase understanding and recognition of emotions (College of Health and Human Development, 2006). Employing a program in school causes students to look at the issue and related topics and this is

the first thing teachers should do is bring the issue out into the open. Teachers need to talk about respect for others’ feelings and point out that what is seen as teasing by the instigator is experienced as bullying by the victim. Also teachers need to monitor potential bullies and clearly communicate to them that such behaviour will not be tolerated. (O’Donnell et al., 2007, p. 31)

### **Whole Community Approach: Impediments**

Researchers such as Epstein and Kazmierczak (2006) found that,

because cyber bullying often begins on family computers and students’ personal cell phones, parents must be vigilant with their monitoring efforts. Parental vigilance is paramount, because inappropriate text messages, e-mails, and postings on Web sites and in chat rooms usually do not occur on school property. Parents and teachers must talk with students about the dangers of cyberbullying, and take action immediately. (p. 44)

The role of parents is fundamentally important however, we need to be reminded,

A parent cannot be held liable for any actions of their children if they have no knowledge of this action - even if the child is a Young Offender (under 18 years old). However, according to Section 110 (b) Doctrine of Allurement of the Canadian Encyclopedic Digest, a person who leaves dangerous machines or agencies likely to attract children on private premises that children are invited or allowed to frequent without taking precautions to prevent the children from interfering with them is liable for injuries sustained by others owing to the meddling of the children. In relation to internet bullying web site development, one could interpret this law as: a parent may be held liable for the possession of a "dangerous machine" - a computer, which the child subsequently uses to inflict emotional harm on another. (University of British Columbia, 2007)

This parental role is nonetheless acknowledged both in law and in recent conclusions within North American forums studying cyberbullying, for example, a recent United States summit focused on cyberbullying brought to light this realization:

For all the promise of this summit, it is incumbent on everyone in this room and every educator and school leader to ask: What can we do to sustain that commitment to reduce bullying? ... The answers to that basic question are many. But they start, and end, with the fact that the problem of bullying has been shrouded in myth and misunderstanding for far too many years. As educators, as state and local officials--and yes, absolutely at the federal level--we simply have not taken the problem of bullying seriously enough. Too often, bullying gets shrugged off. (Duncan, 2010, p. 23)

All caregivers, providers and educators must become aware of this community and global issue as we can all play a role . The Center for Safe and Responsible Internet Use found cyberbullying affects students globally, as Australian and American children stay home from school because they feel threatened, and Scandinavian children are fearful of using their school locker rooms (Willard, 2005). Cyberbullying is particularly dangerous for students who are susceptible to depression and anxiety, and tragically caused the murder of a student in Japan (Marshall, 2005). O'Moore (2005) realized:

Since the first European Seminar on School Bullying which was held in Stavanger, Norway in August 1997 ... a wealth of statistics have emerged from many countries within and outside of Europe ... and more recently from Northern Ireland. ... These statistics confirm that school bullying and violence is an international problem. (p. 1).

In response, do we know what to do, and how to do it? Who should teach these programs and how do they grasp key elements. We know that all students, including those exceptional students who use alternative forms of communication, to report incidents that occur to them or others need to be protected without fear of retaliation for reporting (Hutchinson, 2002). We know school funding can impede programs and school administrators work from a political stance hence they may mislead the community to ensure the school's image is protected.

We know that a questionnaire and its related data can verify the existence of a bullying problem at school. The data can indicate breadth, frequency and type of bullying. We know that limited resources can impair programs and efforts to decrease bullying in schools. Researchers such as Dake, Price, Telljohan, and Funk (2004) sampled 384 schools and discovered that 43 percent of principals would survey and insert an anti-bullying program. However, 40 percent indicated they would not administer a bullying questionnaire because it was not a priority or they believed bullying was not a problem in their school, while another 14 percent explained they had no time to survey (Ryan, 2010). Clearly, school leadership plays a role in the deployment of programs and research in many schools and "stopping pervasive bullying needs coordinated efforts, and changing individual and group perception of the behaviour is critical to dealing with it" (Emmer, et al., 2006, p. 190).

### **Conclusion**

Definitions of bullying and cyberbullying inform and arm people with knowledge and understanding. The imbalance of power (physical, emotional, cognitive) that tends to

characterize all bullying has been addressed superficially herein while the traits of the aggressive, dominating and socially adept bully have been noted (Ryan, 2010). As well, the anxious passive nature of the victim has been put forward as well as prominent theoretical perspectives of why all bullying occurs in schools and on-line. Numerous factors found to prevent bullying have also been stated, yet the cyberspace frontier needs further attention. Several barriers exist in the implementation of anti-bullying programs, specifically; knowledge, time, facilities, policy, and funding are major barriers for leaders who are in a key position to implement anti-bullying programs. Pre-service training of teachers is a key point of preparation especially to combat and counsel cyberbullying related issues. However, there is a need also to admit that these conditions, behaviours, or states of mind (cyberbully/victim/bystander) are often concealed, and largely unknown to the teacher unless there is a mechanism in place to support and encourage both disclosure and counselling. Perhaps a cyber (online) forwarding system could help, so victims could forward offending material to authorities in confidence. As well, our review data led us to conclude that there was overwhelming support for the development of school policies as follows:

#### School-wide

1. Schools should develop policies on cyberbullying.
2. Schools should use professional development days to train staff about cyberbullying.
3. School administrators should organize school-wide activities to deal with cyberbullying.
4. Committees should be formed in schools to look at the problem of cyberbullying.
5. Schools should discuss cyberbullying with parents.
6. School assemblies should address cyberbullying.
7. Schools should link with community resources to deal with cyberbullying.
8. School resources should be used to help teachers deal with cyberbullying.

#### Community

9. TV and other media should discuss cyberbullying.
10. Children should receive counselling to deal with cyberbullying.

#### Classroom

11. Teachers should use a curricula cyberbullying to teach children.
12. Teachers should organize classroom activities to deal with cyberbullying. (Ryan et al., 2011)

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# **The Tyranny of E-learning – Exploring the Barriers that Impact the Development of Connective Learning in Initial Teacher Education**

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## **Abstract**

This paper examines the technological and pedagogical challenges involved in adapting a face-to-face educational law, ethics and social media course into a hybrid course. Using Downes' (2006) and Siemens' (2006) connective learning models, the study identifies some of the key constraints that affect the ability to use e-learning to supporting authentic learning in an online environment. The study focuses on the level of interactivity and engagement achieved during online modules and examines the impact of institutional constraints on the ability of the hybrid model of delivery to support instructional goals. Findings from the study highlight a strong preference for face-to-face interaction and explore the roles that student perception and program planning play in the perceived value of the online learning.

## **Objectives and Purpose**

This paper explores the challenges faced by educators engaged in the process of adapting a face-to-face course for a hybrid course delivery. The paper builds on a presentation given at the IADIS Multi-Conference on E-learning in Rome (July 2011) that explored the process of adapting a well-established face-to-face course in educational law and ethics into a hybrid course for graduate students. It extends that contribution by looking specifically at the technological and pedagogical challenges experienced by the students and faculty as they attempt to develop a level interactivity and critical discourse in the e-learning environment that is capable of engaging student learning and supporting the instructional goals of the course.

In the broadest sense the paper aims to explore how learners explore, engage, react and reflect on their experiences in a digital and social media environment. By focusing on the examination of student and faculty experiences, the study seeks to understand what difference there is, if any, in the learning experience between the face-to-face classes and the online modules. Furthermore, as an emergent theme within the data, the paper explores the degree to which institutional constraints, such as the program leadership model, scheduling and a fixed curriculum have on student perceptions of learning within a hybrid delivery model and whether or not converting the course into a hybrid model was in the best interests of the students.

## **Theoretical Framework**

This study is guided by the assumption that the quality of e-learning is dependent on the ability of faculty, staff, and students to collectively share the responsibility for creating and developing the learning community. This assumption is informed by the theory of Connectivism put forth by Downes (2006) and explored by Siemens (2006), which offers a valuable lens for

understanding the relationship between the process of developing a learning community and the depth of discourse and interaction that occurs within it.

Within this framework knowledge development is understood as an emergent process where knowledge is distributed amongst community members. In this space content is, “used rather than read and is... more likely to resemble a language or a conversation rather than a book or a manual” (Downes, 2006, 8). This process is dependent on principles such as diversity, autonomy and interactivity, which are required for engagement and deep learning (Downes, 2006). As a result, learning occurs through collaboration where community members share their ideas autonomously and demonstrate an ability to recognize patterns within the network (Siemens, 2006). Scardamalia (2002), refers to this as the collective cognitive responsibility and points out that the task of constructing knowledge should be distributed amongst members of the group as opposed to being dependent on a singular source.

This understanding provides a foundation for exploring the process of adapting an established face-to-face course into a hybrid or blended course by focusing on connectivity and interactivity as indicators for the quality of the e-learning experience. This leads to a broader discussion about the degree to which the structure of an e-learning environment impacts the level of engagement, interactivity and critical discourse that occurs amongst members of a hybrid learning community.

### **Connection to Literature**

Existing scholarship on best practices in e-learning places an emphasis on engagement and social interaction in virtual environments (Hill, Raven & Han, 2002; Rovai, 2002), and the development of a sense of community (Picciano, 2002; Smart & Cappel, 2006) as a pre-requisite for positive learning experiences. This is combined with a dominant belief that learning is promoted or enhanced when students are actively involved in learning, when assignments reflect real-life contexts, and when critical thinking is promoted through applied and reflective activities (Bransford, Brown & Cocking, 2000; Driscoll, 2002). While each of these principles is supported by literature on learning theory, educators remain challenged by the process of migrating curriculum designed for a face to face (f2f) environment into online and hybrid models. After all, a hybrid course is “not simply a matter of the combination of f2f and online instruction but it has to have elements of social interaction” (Heinze & Procter, 2006, p. 247).

Empirical research also highlights the importance of social interaction in the e-learning environment and emphasizes the role that participation has on student perceptions of the quality of online learning experiences (Bosch, Hester, MacEntee, MacKenzie, Morey & Nichols, 2008; Hiltz, Coppola, Rotter, Turoff & Benbunan-Fich, 2000; Lock, 2006; Richardson & Swan, 2003). The concept of social connectedness, defined as the degree to which members of the community feel connected to their peers, plays a critical role in teacher education programs and serves as a powerful tool for reflecting on professional practice (Darling-Hammond & Bransford, 2005; Slagter Van Tryon & Bishop, 2009). The opportunity to reflect and share personal experience and theoretical insight is grounded in the understanding that education and other learning occasions, including online programs and virtual classrooms, are fundamentally social practices (Laffey, Lin & Lin, 2006).

Social connectedness is supported when learning environments contain elements of social interaction that support critical discourse. This is characteristic of what Downes (2006), refers to as a connective knowledge network, which is understood to contain the following traits:

*Diversity*: the widest possible spectrum of points of view are explored and revealed.

*Autonomy:* individuals contribute to the interaction of their own accord, according to their own knowledge, values and decisions, without the influence of some external agency seeking to magnify a certain point of view through quantity rather than reason and reflection.

*Interactivity:* knowledge is being produced through an interaction between the members, rather than an aggregation of the member perspectives.

*Openness:* perspectives are entered into the system to be heard and interacted with by others.

Learning environments that contain each of these qualities support not only the quality of the learning experience but extend the depth of knowledge development of the community. As suggested by Siemens (2006), “the growth and complexity of knowledge requires that our capacity for learning resides in the connections we form with people and information, often mediated or facilitated with technology” (Siemens, 2006, para. 22). Consequently, social connectedness and interpersonal interactions are one of the most influential components of effective online instruction (Daves & Roberts, 2010; Glisan & Trainin, 2006).

Research also points to a lack of social interaction in online courses as being a primary influence on student perceptions of learning. In essence, students who report higher perceived social presence in a course also suggest that they learn more (MacGregor, 2001; Richardson & Swan, 2003). This can be a challenge within an online environment as suggested by Biggs, Simpson and Scott (2006), who reported that students have lower perceptions of instructor support and student interaction in an online format than in face to face environments. An examination of online group activities also shows that students who worked alone online were less motivated and had lower perceptions of learning than those who worked alone in class (Hiltz et al., 2000; Lock, 2006). Kuh, Kinzie, Schuh, Whitt and Associates (2005) explain that the value of the learning experiences is dependent on the opportunity to synthesize, integrate, and apply knowledge and that these opportunities are more readily available in face-to-face environments.

Each of these findings highlights the impact that opportunities for interpersonal communication can have on the perceived quality of e-learning experiences. Researchers have made note of negative impact that the loss of non-verbal forms of communication can have in online course delivery formats (Farrell, 2000; Stansfield, McLellan & Connolly, 2004). In some learning environments, the loss of the richness provided by various forms of communication has had “a negative impact on the instructional relationship, by making the achievement of instructional objectives more difficult or even impossible” (Farrell, 2000, p. 44).

The impact on relationship formation can also be connected to a concept of social identity and presence, which is more easily defined within a physical space because of non-verbal cues such as eye contact and body language. As suggested by Slagter Van Tyron, and Bishop (2009): “Students in online courses report feelings of social disconnectedness and miss interpersonal interactions and social cues they more typically have when learning face to face” (p. 291).

The emergence of social media and Web 2.0 applications serves as a valuable tool for overcoming the challenges to interpersonal communication presented by virtual environments. As suggested by Daves and Roberts (2010), the availability of technologies such as Facebook, YouTube and MySpace allows faculty to build on a social network infrastructure that is already functioning and that most college students are already using on a daily basis. Although there may be some debate about the depth of interaction within the environments, social media is potentially useful for fostering a greater sense of social connectedness than is currently standard in virtual environments. However, this raises a fundamental question about the degree to which social connectedness is possible through the use of a standardized LMS platform.

The examination of how learners explore, engage, and reflect on their experiences in a digital environment highlights the importance of interactivity and social interaction as essential components of e-learning. The evolution of e-learning platforms from teacher directed Learning Management Systems (LMS) to Virtual Learning Environments (VLE) to student centered Personal Learning Environments reflects this ideological shift in our understanding of the role that social interaction plays in the digital environment. However, throughout this shift, educators find themselves in a conflict between balancing the changing needs of the learner and the established structure of the institutions that support the environments. This raises questions about the extent that the engineering of the structure of online environments affect the degree of interaction and engagement that occurs within them. Further exploration in this area will be beneficial to students and faculty as they engage in the process of adapting to emerging models of learning within an online community.

### **Method of Inquiry**

In order to obtain a deep understanding of the research problem, the study employed the qualitative research method of intrinsic case study analysis (Stake, 1995) to explore the perceptions and experiences of faculty and students participating in a second year Educational Law, Professionalism, and Ethics course. The methods used within this study are informed by previous empirical research that explores the differences between face to face and hybrid course delivery models (MacGregor; 2001; Smart & Cappel, 2006; Stansfield et al., 2004; Senn, 2008) and research that focus on levels of interactivity and social connectedness within e-learning environments (Picciano, 2002; Rovai, 2002; Towner & Van Horn, 2007; Trinidad, Macnish, Aldridge, Fraser, & Wood, 2001). It is believed that, the use of a case study approach provides an opportunity to investigate the common beliefs of the participants while respecting the uniqueness of each story in an effort to understand emergent themes within the sample (Glesne, 1999; Creswell 2007).

### **Context and Participants**

The study was conducted within the framework of a two year teacher education program and examines a population of faculty and students participating in a second year course that explores issues related to educational law, ethics and professionalism in teaching. The course was originally designed as a face-to-face course within a Master of Teaching program at the graduate level, but was adapted for a hybrid model of delivery for the 2010-2011 academic year due to scheduling constraints. Teacher candidates participated in four face-to-face classes as well as eight online modules covering a variety of topics that included but were not limited to:

- Ethical Issues related to information and communication technology
- Duty of Care and duty to report
- Safe School
- Powers and Duties of Teachers
- Ethical and Professional Standards in Teaching
- Risk Management

Each of the learning modules included an exploration of literature relevant to the topic as well as an engagement in individual reflection and group collaboration activities. Online modules incorporated an additional multi-media component of online videos and screen casts prepared by faculty to highlight the key themes that emerged within the online discussions. This was done to mirror the introduction and review of concepts that would be naturally carried out

within a face-to-face environment. Finally students were asked to create digital artifacts for each of the modules that represented their learning of the topic. The structure of these artifacts was open to the interpretation of the group and published within the context of the learning community.

The participant sample included the course instructor, the teacher educator program assistant and approximately 55 teacher candidates from three divisional teacher qualification areas: Primary Junior (PJ) grades 1-6, Junior Intermediate (JI) grades 4-10, and Intermediate Senior (IS) grades 7-12. Students were divided into groups based on their grade division and engaged in curriculum content that was developmentally appropriate for their professional practice. It is understood that the objectives of the course and the structure of the online modules allows for the participants to “purposefully inform an understanding of the research problem” (Creswell, 2007, p. 125).

### **Data Collection and Analysis**

Data was collected in two phases in order to explore the multi-variant nature of the research problem. The first phase involved the deployment of an online survey that was a modified version of the Constructivist On-Line Learning Environment Survey (COLLES) by Taylor and Maor (2000), and the Distance Education Learning Environment Survey (DELES) by Walker and Fraser (2005). Forty-two of the 55 students in the course completed the survey. In the survey, students were asked to articulate their feelings of social connectedness and their perspectives on the effectiveness of the online modules to support the learning outcomes of the course. The second phase of data collection involved a content analysis of student’s participation (n=55) during online modules with a specific focus on the levels of interactivity and depth of critical discourse. Each of these phases focuses on developing a descriptive and holistic understanding of the overall quality of the learning experience.

Survey data were analyzed using both quantitative and qualitative methods. As suggested by Cohen, Manion, and Morrison (2007), “Surveys gather data at a particular point in time with the intention of describing the nature of existing conditions, or identifying standards against which existing conditions can be compared, or determining the relationships that exist between specific events” (p. 205). Quantitative methods were used to analyze participant response to nine close-ended questions based on a four to five point Likert Scale. Descriptive statistics and comparative analysis were used to examine student experiences and explore the variance in perceptions of learning in the online and face-to-face modules. Comparative analysis is performed using t-tests to examine perceptions on the levels of interactivity and engagement within the online environment and the quality of the learning experience. Qualitative methods were applied to eight open-ended questions to provide a descriptive account of student perceptions on the role that technology played in supporting the learning objectives of the course. The use of these of these methods is intended to explore the distinct social-psychological climate of a blended model of instruction (Walker & Fraser, 2005).

The second phase of data collection involved a post hoc content analysis of student work in the online modules throughout the course. For the purpose of this analysis a modified version of Gunawardena, Lowe, and Anderson’s (1997) interaction analysis model (IAM) (Table 1) was used to examine levels of interactivity and the co-construction of knowledge.

Table 1. Gunawardena, Lowe and Anderson’s (1997) Interaction Analysis Model.

	Phase	Operation
1	Sharing/comparing information	Statement of observation or opinion; statement of agreement between participants
2	Discovery and exploration of dissonance or inconsistency among participants	Identifying areas of disagreement, asking and answering questions to clarify disagreement
3	Negotiation of meaning/co-construction of knowledge	Negotiating meaning of terms and of the relative weight to be used for various agreement
4	Testing and modification of proposed synthesis or co-construction	Testing the proposed new knowledge against existing theory, personal experience or other sources
5	Agreement statements/application of newly constructed meaning	Summarizing agreement and metacognitive statements that show knowledge construction

This model serves as a valuable tool for finding evidence of knowledge building and exploring the processes of interaction in a collaborative online environment. Analysis of both asynchronous and synchronous discussions was conducted and student participation was tabulated based on the tracking of original postings, build-ons, and replies. The use of these methods allowed for the measurement of participation in content as well as a differentiation between interaction with formal content, doing the readings, watching the videos, etc., and informal interaction amongst students and teachers.

### Results

The initial analysis of the survey data and course content points to negative perceptions on the use of technology in the course and a decline in the quality of learning experiences in the online modules when compared to their face-to-face classes. Content analysis data also suggests a significant drop in the level of participation, interactivity and engagement by the candidates during online modules. Interestingly, the negative characteristics associated with the online modules did not to affect the participant’s perception of the value of exploring issues related to professional practice. As suggested by one participant, “The issue for me is that this is an online course, I cannot connect with the curriculum if I cannot talk about it with others. I feel the efforts to have group discussion were ineffective since so many of us thrive on face-to-face conversation. I feel many exciting debate opportunities were lost and as a result, my education in the course felt much more transmissive than transformative”.

The overall level of dissatisfaction with the online learning experiences is also reflected in a statistical analysis of survey data. Forty-five percent of survey respondents felt that the LMS platform (Blackboard) was not effective in supporting the learning outcomes of the course and that the technology used in the course was actually a barrier to their learning. Participants also felt that their ability to engage in critical discourse about professional issues was impaired by the online modules, with only 17% of participants agreeing that online modules promoted critical thinking. This is placed in direct contrast to an overwhelmingly positive perception of learning experiences in the face-to-face classes. As characterized by students who stated, “I loved our in-

class sessions, learned so much from them, and am extremely disappointed that the entire course ended up being online. I learned far less online than I would have in person.”

When asked to compare their experiences in the face-to-face classes to that of the online modules participants demonstrated an overwhelming preference for face-to-face interaction. Some students even “felt cheated” by the fact that they did not have the opportunity to discuss the many ethical and legal quandaries facing educators in a social class setting. Perception of interaction in online vs. face-to-face classes shows a considerable imbalance between levels of communication, interaction and encouragement amongst participants. Survey data highlights a consistent trend towards the belief that in-class learning allows for greater opportunities for dialogue and engagement. For example, 94% of students felt a strong sense of communication with their peers within the f2f environment as opposed to only 34% in the online modules. Interactivity was greatly affected by the learning environment as well where only 25% of participants had positive feelings about their ability to share information and discuss ideas with other students in the online modules. Interestingly, these levels of had a direct impact on feelings of social connectedness, which was indicated when participants who expressed an overwhelming lack of encouragement from their peers within the online environment (Table 2).

Table 2. Participant response to “Am encouraged to participate by my peers”.

	In Class	Online
Never	0%	33.3 %
Seldom	8.3%	25%
Sometimes	22.2%	25%
Often	33.3%	13.9%
Always	36.2%	2.8%

This perceived lack of encouragement serves as an important point for exploring student motivation within the course, as 70% of students indicated a lack of motivation about doing work associated with the online modules. This is contrasted with high levels of participation in face-to-face discussions (78%), activities (85%) and required readings (81%) that were discussed in a regular classroom setting. Although we cannot draw a direct correlation between motivation and engagement in this context, participants emphasize the role that the online modules played in their learning by stating that they, “... would have been much more engaged, learned a lot more, and been involved in critical discussion if it (the course) were only face to face.”

These findings highlight the impact that the structure of a learning environment can have on perceived levels of social connectedness and interactivity. Participants indicated an overwhelming preference for face-to-face interaction when discussing issues related to professional practice, citing a greater opportunity to engage in critical discourse as a key factor in the quality of their learning experiences. Furthermore, the study points out the influential role that program planning has on the successful adaptation of a hybrid course. Time and organization remain a key factor for knowledge building discourse to be shaped and a lack of either can hinder reflective discourse from occurring in online environment (Sing & Khine, 2006).

The development of an online learning community is indeed the responsibility of faculty, staff, and students who must work together to create optimal conditions for knowledge building. The lack of program support in this study is identified as having a direct impact on the success of

the online learning. As suggested by one participant, “The (program) schedule has been disorganized in general this year. The program is making a number of huge mistakes and will likely be less engaging in the future. If I don’t have time to engage in deep thinking, how can I be expected to explore issues related to my practice”. It is in this sentiment that we hear a sense of frustration characteristic of educators who are in the midst of an educational environment struggling to integrate the potential of technology with current pedagogical models in order to identify the best practices for the future of teacher education.

### **Significance and Contribution**

It is believed that the findings of the study will contribute to a growing body of literature that discusses the perspectives of faculty and students on the quality of e-learning experiences (Heinze & Proctor, 2006; Hill et al., 2002; Picciano, 2002). By sharing our experiences, we hope to inform faculties of education, educators, and graduate candidates about the complexities of facilitating e-learning and the impact that institutional constraints and course structure can have on levels of interactivity and engagement.

We also hoped to provide some insight into the unique technological and pedagogical challenges that faculty may face when transitioning from a f2f method of instruction that is highly dependent on social interaction to an online platform. In this regard we encourage educators to consider the potential application of Connectivism as a model for supporting social connectedness within online learning communities. Finally we hope that this study provides a cautionary tale about the importance of considering what Postman (1993) refers to as the Faustian rule, which suggests that although every technology may provide us with an advantage it also takes something away. After careful reflection and analysis, we found ourselves asking the Faustian question and wondering what was sacrificed in this process. As we continue to explore answers to this question, we encourage educators to examine fundamental pedagogical questions about whether converting a face to face course to online learning is in the best interests of students.

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**Stupid Facebook Photos and Student-teachers:  
Lessons Learned about Candidates' Online Activity  
and the Impact of Cautionary Warnings**

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**Background**

During the academic year 2003-4 Laurentian University instituted a concurrent education program after receiving initial accreditation from the Ontario College of Teachers in April 2003 (Laurentian University, 2010). A few dozen students, already at the university, were permitted to enter the B.Ed. program that fall while plans were made by the administration to bring in 200 frosh each year starting in September 2004. The plan was fairly simple: incoming students – most of whom would be in a four year Bachelor of Arts, Bachelor of Science, or Bachelor of Physical Education degree – were expected to attend a few workshops that explained the overall program and introduced them to the Ontario College of Teachers (OCT), but then spend most of their remaining first year focused on their main areas of study.

Starting in second year they would continue to attend a handful of workshops offered by various partners (such as the Ministry of Education or the Ontario Teachers' Federation) but also take their first official "Education" course (EDUC 2004 Education and Schooling). It was in the second year that the vast majority also started the first of three forty-hour pre-practicum placements (PPP) in local schools or in education-related settings (such as Science North or Children's Aid).

In third year, the same pattern was followed – a couple of workshops, an EDUC 3006 Educational Psychology Special Education course, and another forty-hour PPP. Then, in their last year of undergraduate studies, the students were to complete their final forty-hour placement, attend an eighteen-hour course on preparing to teach (EDUC 3004), and after examinations in April, begin a month-long Initial Placement (IP) in May.

After graduation in June, if they succeeded in their IP, and enjoyed a 75% cumulative GPA from their undergraduate degree, they were allowed to enroll in the "Pro Year" the following September. That final two-semester academic program saw the completion of three more long-term placements, a variety of methods courses, as well as "teachables" for those seeking to work in the Intermediate (grades 7 to 10) stream. At the end of this journey – which for most had taken five years – the first thirteen graduates of 2007 would have both an undergraduate degree and a B.Ed. (Danyluk, Buley & van der Giessen, 2009).

The same period witnessed a virtual explosion in social media and electronic communication that would eventually have an impact on the Laurentian concurrent education program. The websites Friendster, LinkedIn, and Myspace were also all launched in 2003, and that fall, Mark Zuckerberg (Harvard class of 2007), began "Facemash" which would eventually morph into thefacebook (later just Facebook) in February 2004. Originally limited to people

with .edu email addresses, by November 2004 Zuckerberg's site had one million members at colleges and universities across the United States, and within a year, 85% of American college students were members. In October 2005, some five million members began enjoying the opportunity to post photographs and add tags to them online and, in February 2006, Facebook was opened to anyone with an ordinary email address – although technically the users were expected to be age 13 and older and use their real name (Kirkpatrick, 2010). Less than a year later, in January 2007, a survey by the Pew Internet and American Life Project indicated 55% of American teens (aged 12 to 17) had joined social networking sites like Myspace or Facebook (O'Hanlon, 2007).

In Canada, meanwhile, rates for participation, on and off campuses, began to exceed those in the United States and it is estimated now that about 50% of Canadians have joined Facebook, with perhaps only 38% of Americans participating on the site (Breikss, 2011). Certainly by 2007 Canada was fertile ground for social media websites. According to Statistics Canada, about 88% of people had broadband Internet access at home by that point and 96% of Canadians aged 16 to 24 years of age went online regularly. The "Stats Can" survey also indicated that only 37% of all Internet users expressed concerns about online privacy in 2007 and young Canadians had the lowest level of interest in this issue (Statistics Canada, 2008). Compounding the potential issues involved was the ubiquity of cell phone usage (especially with increasing numbers of mobile devices being equipped with digital cameras and text messaging capability). Industry Canada reported in a Consumer Trends Update that by late 2006, there were already 16.8 million wireless subscribers in a country of approximately 30 million people (Industry Canada, 2006).

### **2007 Professional Concerns**

For staff and faculty at Laurentian's School of Education, the problems first became manifest in mid-January 2007. As the inaugural cohort of 13 Pro Year students prepared to complete their studies and embark on their final long-term placement, the School also had a population of around 400 undergraduates. (Theoretically there should have been 600 or so but attrition, primarily based on low GPA, had reduced the total by nearly a third). Most in the concurrent program were young adults between the ages 17 and 21. These education students were increasingly joining a variety of social media sites, with Facebook as the most popular. At that time, one faculty member happened to log on to his profile and, out of simple curiosity, searched for "Laurentian Con Ed" and "Laurentian Concurrent Education." He then decided to also Google the names of several students he actually had taught in education courses to see what would happen. The results proved exceptionally troubling. Literally hundreds of student-teachers at the School had Facebook sites that could be fully accessed by anyone else who was a member, and many were posting extremely personal information (e.g., home town addresses, cell phone numbers, residence room locations, and even specifics about part-time jobs and hours of work). In addition, some users had dozens of wall postings and just as many or more photos, many of which would have immediately troubled most parents, associate teachers, and principals. There were hundreds of risqué or tasteless pictures uploaded directly from high school graduation parties or university residence "beer pong" competitions. Also, one could find numerous blogs and amateur YouTube videos that featured our candidates and it was clear little thought was being given by most individuals to their online presence. A quick consultation between members of the Practicum Committee led to at least one student with the most egregious examples called in for a discussion at the end of January 2007. But the scale of the problem was so extensive, and was evidently multiplying daily, that this process would have

taken hundreds of hours to address in that manner and even then the message might not reach all involved. An additional concern for some staff and faculty was that, as parents ourselves, we know that children and teens in elementary and secondary schools were also becoming members of these websites, and naturally would search successfully for information on the new student-teacher in the room. Our small geographic area for undergraduate placements necessitates that we place all our students within the region of Greater Sudbury, just over 70 schools between Rainbow District and Sudbury Catholic boards. A scandal involving electronic communication and one of our candidates might imperil the whole program. It was therefore determined in February 2007 that, henceforth, all incoming students would be informed about appropriate online behaviour the first week in September, and current candidates would be notified of potential concerns in plenary meetings (which were designed to prepare candidates for the following school year) already scheduled for March 2007.

In retrospect, what was online at that time should not have been surprising. Social media sites attracted young people in particular, and they were those most likely to use digital cameras to capture events in their daily lives. As recent high school graduates, these individuals often attended parties where underage binge drinking and recreational drug use were common, and at university, the pattern continued with the added feature of bar-hopping after “pre-drinking” at residence. For the individuals involved, they considered what they were doing as absolutely normal behaviour. One author noted about this period

You didn’t just go to a party anymore, you went to a party with your digital camera so you and your friends could relive that party the next day - or at two in the morning – via Facebook. And the tagging – the idea that you could tag anyone you wanted in those pictures, so that those people could find themselves, see who was there, literally see your social network in its digital form – it was utter genius” (Mezrich, 2010, p. 244).

In reality, as teacher-candidates, the Laurentian students are associate members of a profession where activities that take place outside school, and which are deemed improper or unseemly, can be held against them. In Ontario, the teaching profession is governed by the Standards of Practice and Ethical Standards, both of which student-teachers must aspire to meet. As the Ontario College of Teachers eventually noted in the Professional Advisory, *Use of Electronic Communication and Social Media*: “Teaching is a public profession. Canada’s Supreme Court ruled that teachers’ off-duty conduct, even when not directly related to students, is relevant to their suitability to teach” (OCT, 2011, p. 3). But that advisory was not issued until January 2011 and by then the student-teachers were already equipped with broadband access and mobile phones with digital cameras. Essentially, for Laurentian University students in early 2007, the novelty of social media sites, accompanied by a somewhat naïve understanding of online privacy, meant most had no idea that what they were doing was not “genius” at all.

In March 2007, all undergraduates filed into mandatory workshops designed to prepare them for the fall. In years previous, they had been counseled on which courses to enroll in, how to get a proper police check, and what they might expect in their forty-hour Pre-Practicum Placement the next autumn. But from that point on, a new element was added to these presentations. In addition to the 18 or so slides dealing with issues of course registration and grade point average, another 2 to 6 slides were included (depending on the group), which focused on professionalism, and warned about proper use of “email, Facebook, YouTube, MSN and social utility websites” because essentially they “last forever”.

For the next two years or so, all of our students from first year on were advised to “use a filter option” to increase their privacy settings and to “be judicious in your postings”. Candidates

were warned to erase personal blogs that defamed others, to not post videos on uploadable sites like YouTube or Ifilm that dealt with the joys of illegal drug use. Regarding social-utility websites, they were informed

Apparently students in grade school have heard of computers and occasionally use the Internet, and your professors do too ... and principals at PPP schools, and superintendents in charge of hiring at your favourite board .... Beware of social utility websites, Friendster, Facebook, etc. (i.e. phone cameras and passed out friends, pictures of you boozing big time, etc.) ... deleting photos and/or limiting access is highly advisable (Laurentian University, 2007).

These slides were accompanied by images culled from the Internet (usually found with a simple search term like “stupid Facebook photos”). The students were also warned that questionable photographs, emails, instant messages or texts (and now tweets), could be copied and sent to anyone. That professionalism component became a standard section of at least one School of Education workshop for each year of the program starting in 2007 and was more fully addressed in the annual Initial Placement preparation course EDUC 3004 held each spring. And it was assumed that this basic message of appropriate use was understood, largely because most students could not be easily found on Facebook anymore. While some used higher privacy settings and applied filters so that their profiles were almost invisible to outsiders, others no longer identified themselves as education students, and many more had simply had taken on new names, sometimes their mother’s maiden name, at other times a nickname, or even their real name spelled backwards.

In early 2009, it became evident that our essential message, that the students need to be judicious in their use of social media and electronic communication, had not really been fully absorbed by large numbers. While looking over one graduate’s profile, a member of the practicum committee realized anyone could uncover pictures of people tagged under a pseudonym and that could then lead straight back to the student’s profile. If the candidate had failed to set their privacy settings to filter out the general public, all of the content was again essentially wide open for viewing. It became very clear that the professional aspect was essentially being ignored by dozens of our candidates; instead they were “hiding” numerous tasteless or unprofessional postings and photos behind pseudonyms.

At about the same time, in February 2009, while meeting with a representative from the Ontario College of Teachers on another matter, the topic of Internet use was discussed. Two faculty members learned of many cases where educators had run into serious issues with electronic communications or social media, including the now-infamous Myspace “Drunken Pirate” incident which had just led to an American pre-service candidate having her teaching certificate withheld. (Krebs, 2008; Teachers caught calling, 2011).

We redoubled our efforts to ensure that students going out on the Initial Placement in May 2009 were aware they first had a duty to uphold the “honour and dignity of the profession” (Laurentian University, 2009). Very specific information about what was still being seen online was given out, and they were informed that having a “fake name” was not a guarantee of privacy. Rather they needed to remove any inappropriate content and set their privacy settings as high as possible. Even friends, it was pointed out, might become enemies at some point and they could “right click and send compromising photos to the principal, the school, the board, the

newspaper or the OCT” (Laurentian University, 2009). This more elaborate explanation has now become the norm in various workshops and courses.

### Methodology

Over the last few months, we have sought to uncover, in a more precise way, the nature of our teacher candidates’ online activities, as well as the impact of our continuing efforts related to promoting responsible use of electronic communications and social media. In the fall of 2011, a survey instrument was created and approved by the research ethics board at the university (see appendix one). The questionnaire was administered to groups of students taking part in second, third, fourth and Pro Year workshops or meetings between 7 November 2011 and 16 January 2012. Then we had 664 students: 181 first year, 177 second, 117 third, 104 fourth, and 85 Pro Year candidates; the first year cohort was not part of this survey. The 273 students who voluntarily participated therefore comprise roughly 57% of the remaining 483 upper year candidates in the concurrent education program at Laurentian in 2011-12. Unfortunately, while 273 students completed the questionnaire not all answered every question (generally 270 or more replied to each query) and only 267 indicated what year they were in. The breakdown in terms of percentage self-reported identification is seen in table one below:

Table 1. Percentage of Eligible Respondents.

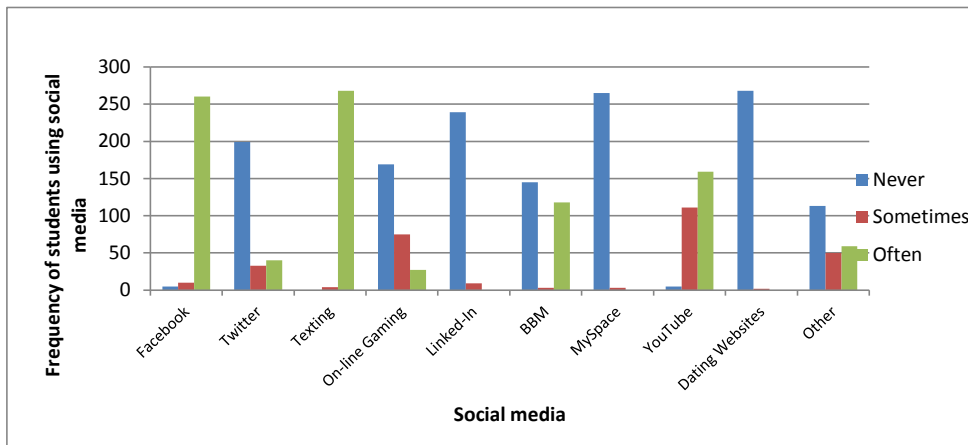
Respondents	Year Two	Year Three	Year Four	Pro Year
273 (267 indicated year)	93 of 177	17 of 117	82 of 104	75 of 85
% of Eligible	53%	15%	79%	88%

Lastly, it is likely worth mentioning that the 75 Pro Years who took part in the survey were among the first students to encounter warnings about online privacy and professionalism in September 2007. Most had heard the message delivered multiple times as part of various workshops or education courses.

### Data

The results suggest that likely every student in the concurrent education program uses texting; fully 268 of 272 who answered that question indicated they would text daily/weekly with the remaining 4 indicating use at least once a month. There was a tie next in terms of use. Both Facebook and YouTube were accessed by 98% of those who responded, with Facebook winning out in terms of more frequent use (95% used it daily or weekly, while only 58% of respondents reported the same sort of frequency for YouTube). Also, in terms of use, 46% of teacher-candidates indicated they sent BBM messages at least once a month, 38% reported accessing online gaming sites (e.g, PlayStation or Xbox) at the same rate, and just over 27% reported similar use of Twitter. The other options offered, such as LinkedIn (4%), Myspace (1%), and dating websites (under 1%) lagged far behind in terms of usage (see figure 1).

Figure 1. Use of social media by concurrent education students.



When asked what they remembered being told about social media and electronic communications, the results suggested that warnings about privacy settings had been the most important with 87 saying they had adjusted those to prevent outsiders from viewing their profiles. Removing inappropriate photos or postings was mentioned by 59 respondents; 33 said they should not “friend” students online; 7 said they were told to not email student; and 1 remarked about not posting anything about students. More generic comments involved 9 mentioning “being responsible” with social media and electronic communications and 21 saying they had simply been told to be careful about what they put online. But 40 others specifically recalled being told that improper online content might adversely affect their search for work. Amazingly, despite at least five years of concerted effort to educate our students on the professional use of social media and electronic communication, fully 12% of the respondents indicated they had not received any information at all (that said, of course, 88% indicated they had).

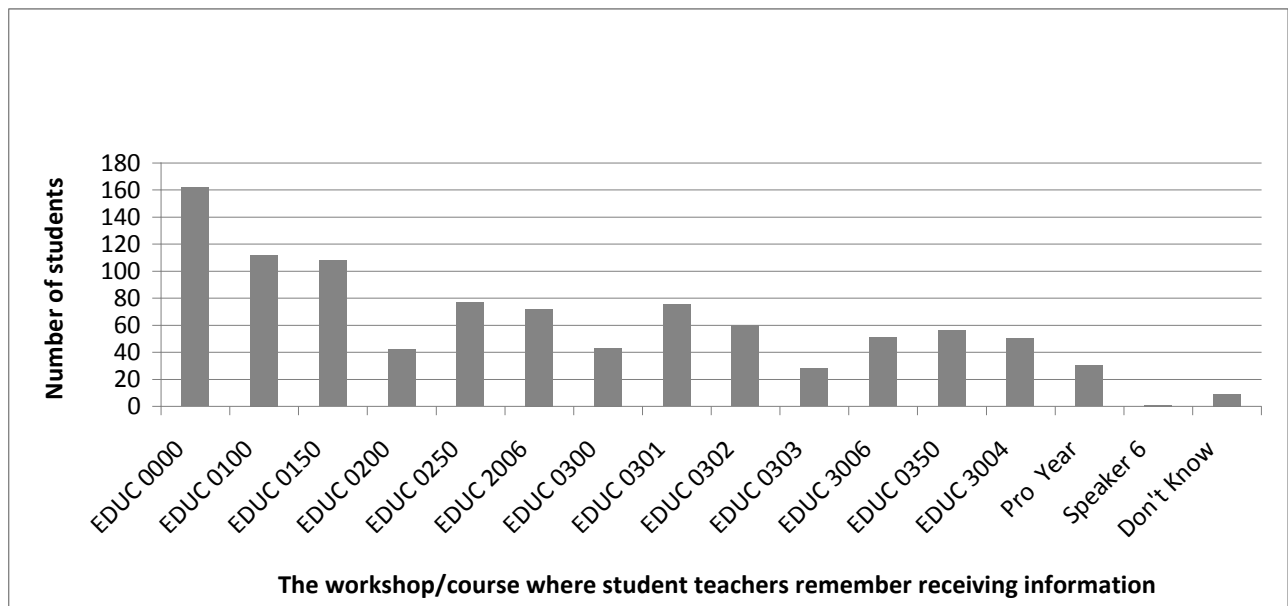
In many respects these were results we expected. Our candidates are still young adults not much interested yet in professional networking so LinkedIn (which caters to a slightly older crowd) is not very popular. The decline of the once ubiquitous Myspace as a website of choice was also dramatically displayed, and, so too, was the universal popularity of texting. We know from personal experience that it is a sure way to get a teacher-candidate’s instant attention while on placement as emails to them languish unanswered for days. Also, the focus on privacy settings, the awareness of content issues, and the concern with being careful while on placement in their use of social media and electronic communication indicate the main themes have been absorbed by a sizeable portion of our student body. Lastly, the hegemony of Facebook and YouTube on today’s Internet was confirmed by this survey, with the somewhat “addictive” nature of the former evident in its far more frequent access by the respondents.

At the same time, some of the results proved surprising. Thirty-four of the respondents claimed to have no memory of any information at all being given to them on this topic. It is possible some just forgot, or didn’t pay much attention, since pretty much every one of these events was a compulsory workshop/meeting where attendance is taken and the students could not

have avoided every session and still be in the program. We suspect at least some of these respondents may have misunderstood the question, thinking we were asking on the survey if they had been taught how to use social media in their lesson planning perhaps. Thirty-six students said they believed they had been told to stop using Facebook altogether although, to our knowledge, that message had never been offered by a presenter at a School of Education-run workshop or meeting. Another unexpected result was that just forty-one mentioned using a different name online, although from a cursory glance through graduates who have become “friends” on Facebook, it seems almost all have gone that route in one way or another. That said, we have not generally recommended this approach, preferring instead they act professionally online, but we have told them other student-teachers and even teachers use pseudonyms. Perhaps most disconcerting of all, while six candidates remarked in the comments section that they had rejected “friend” requests from students while out on placement, one respondent admitted to sending that sort of an invitation to a student, something the OCT 2011 Professional Advisory specifically warns against.

Another interesting aspect is that it appears our message has been “front-loaded” in a way (or at least is perceived or remembered that way by the students). The introductory EDUC 0000 workshop was the most often cited source of information on social media and electronic communication, followed closely by the EDUC 0100 session that is also geared to first year students. The next most cited source is the EDUC 0150 series of workshops that precede the 40-hour placement early in second year.

Figure 2. When student teachers remember receiving information about social media/electronic communication total responses.



These overall response rates, however, mask some significant difference between education students in various years. For example, our second year respondents who had just completed those first workshop/meeting commitments in the last eighteen months were the most likely to cite them as sources of information. Fully 79 of 93 second years (or 85%), remembered getting the message in the inaugural EDUC 0000 meeting, but only 23 of 75 Pro Years (31%)

recalled a similar warning in their year's session. The responses also indicate a sharp drop off in the message in most second and third year workshops and meetings, but that is wholly understandable since a number of these sessions are delivered exclusively by educational partners and deal with topics like collective bargaining/salary expectations or applying for QUECO evaluations. Any mention of professionalism in those sessions would be something that an individual presenter felt might need highlighting, but it is not part of a School of Education dictum. It should be remembered as well, that the pool of candidates who would have participated in all these events declines over time. For example, only the 85 current Pro Years have participated in all of the courses and meetings (and even some of them may have skipped optional offerings like our "Speaker Six" series). Thus, responses dealing with the EDUC 3004 preparation for the Initial Practicum course last spring and Pro Year courses in 2011-12 are restricted to a relatively small group of respondents. Of the 75 Pro Years who participated in the survey, 29 (39%) remembered presentations in EDUC 3004 about the topic, and at least 25 of the 75 (33%) remarked that they had discussed the issue this academic year.

### **Conclusion**

That the overall message first delivered back in March 2007 has been generally effective can be determined by anyone with an operating Facebook account. While some of our first year students still enter the program with very public online profiles that present issues, one will not usually find our student-teachers displaying excessive amounts of personal information or posting grossly inappropriate images on an easily accessible profile. Despite the insistence of Facebook on users enrolling under their legal names, many or most of our candidates seem to have taken aliases and they tend to have their privacy settings set so that only people who really know them have access to their profiles. However, as recently as a few months ago, we had concerns with a first year student having inappropriate wall postings that came to the attention of senior candidates administering a Facebook site on behalf of the student association.

In general though, our teacher-candidates are still very active users of the internet and electronic communications (with apparently 100% sending texts and almost all of them accessing Facebook and YouTube regularly). But they are generally much more circumspect in their activities than their predecessors were or many current non-student teacher colleagues appear to be. Almost all recalled being informed in workshops, meetings, or education courses about appropriate use of social media and electronic communication and hundreds remembered specific messages relating to exercising caution about what they put online and using electronic communication in a professional manner. This is what one would hope for from concurrent students who have had many months or even years to absorb and reflect upon issues like this. As one candidate summed it up: "If you are not competent enough to handle Facebook, you probably shouldn't be a teacher." At the same time, however, it appears that we still have our work cut out for us since only about one in six specifically mentioned that they needed to exercise special caution while out on placement (and one apparently invited a student to become a friend on Facebook). And so our emphasis in the next little while will certainly be to continue educating incoming frosh and younger undergraduates on issues of professionalism online while reviewing more explicitly the OCT's 2011 advisory having to do with maintaining professional boundaries while candidates are actually out in elementary and secondary school settings.

**Appendix One – Survey Instrument**  
Use of Social Media Websites at the School of Education

1. What year of the program are you in?

- First year
- Second year
- Third year
- Fourth year (if in a 4 year degree)
- Pro. Year

2. How often do you use these sorts of social media websites?

Facebook	Never	Sometimes <i>(once a month or so)</i>	Often <i>(daily/weekly)</i>
Twitter	Never	Sometimes <i>(once a month or so)</i>	Often <i>(daily/weekly)</i>
Texting	Never	Sometimes <i>(once a month or so)</i>	Often <i>(daily/weekly)</i>
On-line gaming	Never	Sometimes <i>(once a month or so)</i>	Often <i>(daily/weekly)</i>
Linked-In	Never	Sometimes <i>(once a month or so)</i>	Often <i>(daily/weekly)</i>
BBM	Never	Sometimes <i>(once a month or so)</i>	Often <i>(daily/weekly)</i>
MySpace	Never	Sometimes <i>(once a month or so)</i>	Often <i>(daily/weekly)</i>
YouTube	Never	Sometimes <i>(once a month or so)</i>	Often <i>(daily/weekly)</i>
Dating Websites	Never	Sometimes <i>(once a month or so)</i>	Often <i>(daily/weekly)</i>
Other	Never	Sometimes <i>(once a month or so)</i>	Often <i>(daily/weekly)</i>

3. Have you received any information about the use of social media during your time at the School of Education?

Yes      No

4. If so, when did you receive it? *(check as many as you think apply)*

EDUC 0000 Orientation to Teaching  
EDUC 0100 Ontario College of Teachers Colloquium  
EDUC0300 Introduction to Federations  
EDUC 0200 Colloquia: Ministry of Education  
EDUC 0301 Safe Classrooms

EDUC 0302 Colloquia: Safety and Discipline  
EDUC 0303 Collective Bargaining  
EDUC 2006 Education and Schooling  
EDUC 3006 Educational Psychology/Special Education  
EDUC 3004 Initial Practicum Prep.  
EDUC 0150 PPP Workshop  
EDUC 0250 PPP Workshop  
EDUC 0350 PPP Workshop  
Professional Year \_\_\_\_\_

5. What sort of information did you receive? (*Do you remember any specific advice?*)

6. Have you changed how you use social media as a result, if so how?

7. Has the use of social media ever had an impact on one of your placements (i.e., PPP, IP PY?)

If yes, please explain how and why? (*i.e., did it involve Facebook or was a student in your class cyber-bulling, etc?*)

8. Have children/youth you have taught ever tried to contact you using a social media website?

If yes, please explain in as much detail as possible.

9. Is there anything else you would like to tell us about your use of social media?

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## **Young Canadians in a Wired World, Phase III Teachers' Perspectives**

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### **Abstract**

We conducted semi-structured interview with a purposive sampling of key informants (teachers who successfully engage their students and create an excellent learning environment in the classroom) to explore whether social media make it easier for students to learn, and whether to use of these technologies changes the teacher-student relationship. Results indicate that digital literacy can be promoted not by teaching technology but by teaching students how to use technology effectively as a learning tool. School and board policies can help or hinder the effective use of social media in the classroom. Teachers who are willing to forego being the expert in the front of the class and take the role of facilitator and co-learner are also more likely to use technology as a pedagogical tool. A number of best practices that will help enhance learning through communication, collaborative learning, and tailoring the learning experience to individual learning styles were also identified.

### **Introduction**

Canada was an early leader in connecting technology and education. Canadian schools have been wired to the Internet since 1999, and Canada was one of the first countries to create an online space where Canadian teachers and students could share information and learn together. As the earlier phases of the *Young Canadians in a Wired World* (YCWW) research project demonstrated, Canadian students were quick to follow the government's lead and use online technologies to help with their school work. When YCWW first went into the field in 2000, less than half (44%) of Canadian students told us that the Internet was their preferred source of information for school assignments (EnviroNics Research, 2001). By 2005, during Phase II of the project, that number has risen to 80 per cent of students in Grades 4-8 and 92 per cent of students in Grades 9-11. Half of students surveyed (47%) also told us that they wanted to learn more about using the Internet to find information and over two-thirds (68%) wanted to learn more about distinguishing true information from false information they find on the Net (Erin Research, 2005).

Clearly, online technologies have become an integral part of education in Canada. However, research in other countries, most notably the United Kingdom (Becta, 2007, 2008; Daly, Pachler & Pelletier, 2009), has indicated that mere access to technology does not necessarily translate into better learning. Accordingly, when we initiated phase III of YCWW in 2011, we wanted to get a fuller picture of how online technologies are being used in Canadian classrooms and what affect they are having on students' learning. To help us do this, we decided to ask teachers whether or not, in their experience, having networked devices in the classroom has made it easier or harder for students to learn. We also explored the impact these technologies have had on the student-teacher relationship, and sought to identify best practices for technology-enhanced learning.

## Methodology

We conducted exploratory qualitative research with a purposive sample of key informants in February and March of 2011. A semi-structured interview guide was created, and ethics approval was obtained from the University of Ottawa's Office of Research Ethics and Integrity. Our partner, the Canadian Teachers' Federation, helped us obtain an appropriate sample by working with their provincial and territorial affiliates to identify teachers who have been successful in engaging their students positively and creating an excellent learning environment in the classroom and approaching these teachers to see if they would be willing to be interviewed. In this way, we recruited one elementary school teacher and one high school teacher from each of five regions: the North; the West; Ontario; Quebec; and the Atlantic. Three of our teachers were francophones teaching in French schools outside of Quebec, and seven were Anglophones teaching in English schools.

Ten interviews were conducted over the telephone. Interview times were set at the convenience of the participants. Each interview lasted approximately 60 minutes. The investigator used a semi-structured interview approach, to allow new questions to arise from the participant's responses.

With participant permission, the interviews were tape recorded and transcribed for analysis. All identifying information was removed from the transcripts, and participants are identified only by region and/or school level (e.g. Ontario elementary school teacher). The following report summarizes our findings.

### Not So Savvy Surfers

There is no doubt that young people enjoy engaging with networked media. All of the teachers we talked to indicated that their students loved working – and playing – with smart phones, iPods, iPads, computers and networked devices of all kinds. But they also agreed that simple access to networked technologies has not made their students better learners. In spite of the fact that young people demonstrate a facility with online tools, many students lack the skills they need to use those tools effectively for learning.

Our secondary school teacher from the Atlantic summed up the feelings of the group: "I don't think students are all that Internet-savvy. I think they limit themselves to very few tools on the Internet and they don't think it's as expansive as it could be. They're locked into using it in particular ways and don't think outside the box." So although students know how to use texting, social networking, and online search engines, they don't know how to use them well: "... even in *Google*, when they're searching for something online, they really struggle about what to type in for a *Google* search, and I'm always surprised at the lack of knowledge that students have about how to search and navigate online." An elementary teacher from the Atlantic concurs: "They don't really create a lot, necessarily. They know how to use *Facebook* or *YouTube*, those kind of spaces ... I think a lot of students know how to chat, how to text, but they don't know how to use the learning experience." There is also a real propensity on the part of students to take what they find online as "given". For example, our elementary teacher from the North recounted an experience he had when a group of his Grade 5 students were working on a project on Sasquatches. They had found some pictures of what purported to be a Sasquatch penis bone on a website and asked him if he thought it was appropriate for them to include the pictures in their science fair exhibit. He told us, "... so at that point I was like, holy mackerel, where are you getting this information from?! And I took a look and it was a totally bogus website. Now, these

are A-level students who were totally fooled by this.” He concluded, “They know more about, say, the nuts and bolts of getting someplace. They’re clueless about how to use it and especially how to use it safely or appropriately. You know, to authenticate it. They can find Sasquatch penis bones all over the place.”

### **Identifying Problems and Solutions**

Since the late 1990’s the Canadian government has been committed to connecting Canadian homes and schools to the Internet. Why then, given their exposure to online technologies both at school and at home, do students continue to lag when it comes to developing proficiency with digital content? The teachers we talked to identified five key factors, each with its own solution.

#### **Teaching Tech vs. Using Tech to Teach.**

Our informants felt that many Canadian school boards continue to focus on training students how to use technology instead of providing students with learning opportunities that are enhanced through the use of technological tools. Our secondary school teacher from the West indicated that this approach leads to “shoehorning technology”:

... unfortunately what happens is, despite billions of dollars spent on technology ... teachers end up using technology to facilitate the same kind of projects they’ve always done. And that’s not good enough; we’ve got to aspire to something more than that. Tech doesn’t mean ‘do everything that we did yesterday, just flashier’. It’s not about putting a piece of clip art on a cover and thinking that you’ve brought tech.

In fact, our informants told us that they spent little to no time teaching students *how* to use a particular piece of software or hardware; instead, they focused on teaching them *why* the technology would be useful to their learning. This was a highly effective strategy for students from Junior Kindergarten through Grade 12, as the following two examples illustrate.

Our secondary school teacher from the Atlantic wanted his students to learn about trans-mediation by converting the words of a poem into sounds that would convey the meaning of the poem. He discussed the various ways different texts (such as written text, video and audio) inter-relate, introduced the concept of a soundscape, and asked the students to use Audacity (a program for recording and editing sounds) to complete the assignment. Instead of teaching them how to use the software, he focused on helping them understand why it would help them explore the differences between various kinds of texts. As soon as they understood the purpose of the assignment, “it became interesting technology to them ... They loved it; they really liked the challenge of representing something in a new way. But also, the use of the technology become secondary, as opposed to that’s all you do, you just go and learn the software. Instead, it was why do you use the software.” In fact, the students asked only two questions in regard to the technology. The first was how to spell Audacity so they could download the program from the Internet, and the second was whether or not the teacher wanted the finished product in an .mp3 file or a .wav file.

Our elementary teacher from the West had a similar experience when she introduced iPads to her Junior Kindergarten class. She put some apps on the iPads, gave them to her students, and told them “If you don’t like where you end up, press the round button on the side.” After virtually no instruction, the children were able to navigate and use the various apps. Rather than

spending instructional time teaching them which buttons to press, she spent the time integrating the various apps into the curriculum in ways that matched the students' individual learning styles. The effectiveness of the iPad as a learning tool was directly related to its ability to enhance the students' learning opportunities in ways that reflected the desired curricular outcomes. She concluded:

... technology is not a substitute for a real, hands-on learning experience. Kids, they need to touch, to experience, to taste those things. Technology is one more way to reach them, but I want people to understand that I would never use technology as a substitute for those experiences that are so essential to early childhood development. I think it's really easy to get swept away with it all, and I'm as guilty of doing that as anyone. But I try to bring it back to, what is it these kids need at this point in their development? ... And also, making sure that we're using technology to meet curricular outcomes, not using technology and hoping it fits in somewhere. Using technology because it's fun and exciting isn't always the right match for learning.

Our key informants shared this belief that technology can be an effective learning tool when the focus is placed on pedagogy, not technology. Our secondary school teacher from the West summarized this well: "People can get drunk on tech, just on tech for tech's sake. And we have to start talking about pedagogy; what we're actually using the technology for. And how is that ... bettering the learning? And if it doesn't, then heck, get rid of the tech. It's cheaper to do without it." From the Atlantic we heard, "I think that's why we need teachers, to provoke or bring the student to ... the learning experience."

#### **"Drill and Kill" Experts vs. Facilitators and Co-Learners.**

The focus on pedagogy reminds us that the student-teacher relationship continues to be central to the learning process. When we asked our elementary teacher from the North if the use of the Internet has improved the quality of his students' work, he responded, "I'd say good teaching improves the quality of their work." Our secondary teacher from the West agreed:

Technology will never replace a teacher. Technology is no different than bricks and mortar – if the bricks and mortar of the school disappeared, learning could continue. At the heart of it is the student-teacher relationship. We can support that student-teacher relationship with bricks and mortar and with technology, but there is no replacing it. ... Being a good teacher is understanding how children learn, and then you use the technology as a tool.

However, all our informants pointed out that certain teaching styles do not work well in a wired classroom. Many spoke of the "drill and kill" teacher who typically talks at students from the front of the room, and gives all students the same exercises at the same time. That kind of teacher finds it difficult to use technology because doing so brings a certain loss of control over what the students are doing at their desks.

On the other hand, a teacher who is willing to share responsibility with the student and facilitate the learning process is more likely to be comfortable with networked learning tools. Our elementary teacher from the West put it this way:

I think my role has shifted more from ... I don't know, for lack of a better word, like on a stage... to almost more of a facilitator of learning experiences in my classroom. Everything isn't as teacher-directed; I think things have become more student-direct, is kind of how I would see that shift in my teaching ... As a result, I have a lot more things in the classroom at once, when in the past, it was more like everyone was doing everything at the same time.

Our secondary school teacher from Ontario agreed: “the greatest thing is when they have computers in front of them, and I can walk around and actually connect them. That helps a lot, instead of doing a lecture when you're just in front of the classroom talking. They're actually involved.”

Having a comfort level as a facilitator was closely tied to being comfortable with not being the expert in the room. In fact, our informants told us they were successful in integrating technology-enhanced learning precisely because they were willing to admit that many of their students knew more about the technological bells and whistles than they did. However, they saw this gap as an opportunity.

First, it gives teachers an opportunity to learn from their students. In the words of our elementary teacher from Ontario, “That generation, they were born with computers in their hands. Sometimes I want to know, so I ask them, and usually they show me – after that, I'm okay.” Our elementary teacher from the North took the same approach when he introduced some new video software in his class. He told his students,

This is a brand new version; I'm not 100% sure how this is going to go but this is what we want to do and this is how we've done it in the past, so get in there, take a crack at it, and if you discover something really interesting, put your hands up.' Then I stop the whole class, I capture their screen, I project it up front, and they do a little demo ... Within a week, I knew as much about that version of iMovie than I had with any of the previous ones, because I'd done it with them.

Our secondary teacher from the North moved this idea further: “... hopefully the teacher realizes that education is a two-way street. I tell my students that there are 23 teachers in this classroom ... With the way technology and science is changing today, it's impossible to keep up with it ... and as a teacher you have to be comfortable with that.”

Second, it is an opportunity for students to feel proud of their skills. For example, our elementary teacher from Quebec wanted her students to participate in a corporate-sponsored fund raising event for children who were affected by the tsunami in Japan; the company agreed to send a piece of clothing to a child for every paper crane they received.

The thing is, I'm not very creative; I'm not very good at those things. So I put up a little video and showed them how to make a paper crane, and it was tough. I was so impressed, my kids went home, found an easier video, and said, 'We found a better video, use this one.' ... They were so proud of themselves. We got the Grade 4 students to come to our classroom, they taught them, and now we have 200 paper cranes to send ...

Our secondary school teacher from Ontario had a similar experience. He found that learning from his students not only cut down on the time he spent learning new software, it was a source

of pride for them: “... they show me things and they’re so happy about it ... They’re quite proud, showing you stuff.”

### **Younger Teachers vs. Older Teachers.**

At the same time, technology in the classroom brings its own problems. Our informants indicated that many teachers are cautious about tech because it can be disruptive. As our elementary teacher from the West put it, “your class can get away from you very quickly when you’re trying to troubleshoot a tech problem for 30 seconds.” Networked devices can also easily distract students from the task at hand. As our secondary teacher from the West noted, “It’s going to be messy and sometimes the kids are going to get on things that are inconvenient, like, maybe you’re trying to get them to learn about algebra and all of a sudden the kid’s reading about the tsunami in Japan.” Our teacher from Quebec noted that “... you can be as creative as you want, but without classroom management skills, forget about it”. Accordingly, strong classroom management skills are paramount to the effective use of technology in the classroom.

Interestingly, almost all of our informants indicated that this gives older teachers an advantage over younger teachers, primarily because they are more experienced and have “been around the block.” Our elementary teacher from the West, for example,

really thought that, you know, well, it would be teachers fresh out of university that would be eager to use technology in their teaching. I figured the older teaching populations would be reluctant. I was really proven wrong on that: some of the most cutting-edge teachers I’ve worked with have been in their 40s and 50s and the teachers that have been most difficult to get, you know, willing and motivated to use technology, have been newer teachers.

In a like vein, our elementary teacher from the Atlantic told us, “One of the girls from Young Teachers said they don’t get any respect, using those technologies. If we use those technologies, we have to change our way of being captain of the course, and not talk for 60 minutes. I think that’s what makes the younger teachers afraid.”

### **Tech Training vs. Curricular Training.**

Given the gap in classroom management skills between the generations, a number of our informants talked about the importance of mentorship. However, many were frustrated by a lack of support for this within their schools, as described by our elementary teacher from Quebec, “Teachers have to do all these things but they’ve done very little in training.” They also told us that there was a dearth of in-course and professional development training to help teachers, young and old, learn how to use technology to meet curriculum outcomes. They were aware of courses designed to help teachers learn how to use a particular piece of software, and one indicated that he had taken a course on how to authenticate online information in teacher’s college, but as a whole they were largely on their own when it came to figuring out how to use technology to support and enhance learning.

One of our informants had attempted to rectify this by providing information technology training and support to other elementary teachers. But he found it hard to translate that investment in training into real change in the classroom:

It's difficult to make inroads amongst my peers ... we were always getting the same few people out. They were the keeners; they were the ones who were doing the great online projects with kids. You wanted to get the other people out ... The workshops we got the biggest turnout for were the ones that really didn't seem like they had much to do with school. Things like using iPhoto; photographers would show up, interested in learning how to use iPhoto. And partway through I would try to subvert to ways you can be using it in your classroom. But it seems that people would come out to the ones that they could use personally (Elementary teacher from the North).

The exception to the trend was our elementary teacher from the West. Her school board provides a great deal of support to teachers, including 30 minute software training sessions, an annual technology conference, and teaching releases for teachers who want to work with a mentor on technology-related projects. However, even with this support, it can be difficult to convince teachers to change their teaching styles: "I think it gives them enough, but what it can't give them is the desire or motivation. If you bring a horse to water, you can't make it thirsty. It's true, because you either are a self-starter or you're not."

Part of the problem is that many teachers don't think of technology as a learning tool. So whenever our elementary teacher from the West makes a presentation on collaborative learning, she Skypes her kindergarten class and has the students teach the teachers how – and why – to use Skype: "... that's more powerful than anything I could ever say ... they say stuff like, 'We like using Skype to call our friends,' and 'Did you know we have iPads in our room? We use them for letters and number stuff!' They're pretty funny. It's really powerful."

### **Online Filters vs. Letting Students Make Mistakes.**

The most common problem our informants identified was the inability to access networked technologies because of school filters and policies that ban networked devices in the classroom. For example, our Atlantic elementary teacher's students could not use *Twitter* to work collaboratively on math problems because the school refused to unblock the account creation page even after he explained why they were using it:

School policies around technology are very frustrating for me ... it's about access to the outside world beyond the school ... connecting with others beyond your school ... I think it's one of the biggest benefits of having Internet in our classrooms or in our projectors, is being able to connect with others in a real-time situation, but in fact we can't use *Skype*.

Additionally, our teachers from Quebec and Ontario could not use videos in class because *YouTube* was blocked. Even teachers who were experiencing interruptions in class because of texting felt that the policies banning cell phones were ineffective: "... we take the phone away and they get it right back – what have we really done?" (secondary school teacher from Quebec).

The consensus was strong that these kinds of policies have to be rethought because they decrease learning opportunities. It was also a matter of trust: "For me it would be so much easier if it were just unblocked and the Board trusted the teachers to show the kids how to actually use this material. That's how I'd prefer to teach" (Ontario secondary school teacher). Our elementary teacher from Quebec acknowledged that younger children should not have "free rein" but agreed that restricting access was not the answer; instead administrators needed to trust teachers to guide the students so they can learn how to be good digital citizens.

Certainly schools that did have open access quite clearly trusted their teachers to exercise good judgment and created a policy environment which facilitated that. Our elementary teacher from the West indicated that:

My school department is very forward-thinking; we have really reasonable policies that do give teachers a lot of freedom and power when it comes to decision making regarding education in our classrooms. We have all parents sign Internet acceptable use forms at the beginning of the school year, when their child registers in kindergarten. We also get permission to share digital work samples, photos, artwork, that kind of thing. As well, we have a very reasonable cell phone policy, where cell phones can be used for educational purposes at the discretion of the teachers. So I have a lot of support on that.

Interestingly, the teachers in schools where access was restricted reminded us that teachers are frequently required to teach students how to deal with offline content and conflict. For example, our secondary school teacher from Ontario teaches visual arts; she told us she often talks to her students about appropriate and inappropriate representations of the nude body. Ironically, her school blocks images and *YouTube*, making it harder for her to expose her students to good art. She concluded, “instead of blocking it, [we should be] finding a way to talk about it and then actually having an open discussion and figuring out what’s right and what’s wrong, what’s appropriate and what’s not.”

All our informants told us that learning how to exercise good judgment and act as good citizens is central to the development of digital literacy skills. Ironically, however, restrictive policies designed to protect students from online content take away the very opportunities they need to acquire these skills. Our secondary school teacher from the West put it this way:

It’s not like all of a sudden you hit 18, and now you can have autonomy. I mean, children do not learn to make good choices by being told what to do and follow instructions. And, unfortunately, they have to be given the opportunity to make bad choices as often as good choices. And they need adults to be the saving, caring allies that we need to be to help them make [good choices], to learn from their mistakes.

Our informants with access had developed a number of ways to do just this. To help her students learn about online privacy, our elementary teacher from the West took her students on *WebKinz* and discussed why they shouldn’t use their real names or give people their phone numbers when they’re playing. Our elementary teacher from Quebec used instant messaging to help students learn about cyber bullying and online etiquette. Our secondary school teacher from the West set up a chat room in his classroom and used it to teach his students how to deal with spam and rude or insulting conversations. Our elementary teacher from the Atlantic had his students create blogs so they could learn about global audiences and the importance of publishing high quality material.

Two examples in particular illustrate the power of letting students use online tools and providing them with face-to-face guidance so they can learn how to manage the pitfalls. When our secondary teacher from the West was doing online research with his students, one of the students came across a hate site. Instead of blocking the site, the teacher used this as a teachable moment:

... it even took me a few minutes before I realized I was on a website that was sympathetic to the Nazis. It was phenomenally written, in evil ways. It cloaked the true racist and hatred messages under prose. You know, using language. And so, I actually had the kids look at it – when my light bulb went off theirs hadn't yet. They didn't know what they were looking at. I asked them to look a little closer, and some of them started to see it and others still couldn't. And that interested them, because I could see something they couldn't. That was a way for them to see, for them to get interested in the idea that somebody was actually preaching hatred and it didn't even feel like it.

Interestingly, young children also acquire digital literacy skills through a combination of experiential learning and teacher guidance. Our elementary teacher from the West has her kindergarten students blog daily:

That's been a great way of teaching a variety of ethics and responsibility online. And I was really impressed – one day my coordinator of curriculum came into this classroom, just spontaneously for a visit, and she was asking the kids about their blogs. And they were able to really explain to her, "Well, we can't tell anyone our password; the only person we tell our password to is Mrs. Pillsbury; we want to be safe on line; we can only use our first names; we can't use our last names or our ages or our phone numbers; we have to be careful that when we use pictures online, they're our pictures, because we can't use other people's things." So I've definitely seen that growth in the ethics and responsibility side of it.

### **Turning Technological Access into Enhanced Learning**

Our informants were successful in integrating technology into the classroom precisely because they focused on pedagogy, were comfortable with not being the tech expert in the room, had strong classroom management skills and saw online pitfalls as teachable moments. And they enthusiastically reported a number of ways in which networked technologies have enriched their students' learning.

#### **A Wealth of Learning Resources.**

All our informants agreed that networked technologies give teachers easy access to a world of learning resources. Many of these resources provide information in interesting or engaging ways. For example, one of our informants used a *YouTube* video of a teacher singing about division in her elementary classroom to reinforce math skills. Her students like these kinds of resources because they are innovative and fun.

However, the networked environment does not just provide access to a library of information; it also provides an opportunity to interact with that information in order to test skills and apply new knowledge. For example, another informant took his elementary students on an online scavenger hunt from Parliament Hill to the Canadian Rockies. At each virtual location, they were given visual and textual information about the site they were visiting, but the primary purpose of the unit was to give them an opportunity to learn how to use longitude and latitude to orient between various locations.

#### **Communicating with Others outside the Classroom.**

Again, students enjoy online resources because they are interactive and fun. But our informants agreed that the most exciting learning resources are the ones that connect students

with the real world. One elementary teacher told us that her class paid daily visits to a web cam focused on an African watering hole. She found this to be a highly effective way to teach students about ecology and animal behaviour because they were able to apply their knowledge immediately to their own observations of the animals in their natural habitat.

This ability to connect with the world outside the school in real time was identified as the single most powerful benefit of technology enhanced learning. Our secondary school teacher from the Atlantic, for example, had his students record class discussions and create podcasts on a variety of issues: “That’s a really interesting way of using technology, to create broadcasts to generate awareness ... they can share and reflect with other groups of students about a common text.” This enhances the students’ engagement with the material, particularly when others outside the school begin to communicate back. A conversation the class had with a member of First Nations living in the other side of the country “led to an entirely different kind of project where the class was determined to go and meet the woman on the other end.” They also used online conversations with people with real world experience to deepen their understanding of topics as varied as the Holocaust and Afghani literature.

Our elementary teacher in the North had similar success when his students shared their knowledge of wolves with students who lived in four southern schools. The students were so excited that they put a map on the wall and put pins in it every time they communicated with a different school. He also hooked them up to a live feed of citizens from Cairo during the Arab Spring. He told us, “... kids were just huddled around and discussing it, and they were excited for the people of Egypt. I swear to God, most of them wouldn’t have known the capital of Egypt before this started.”

The power of communication can also enrich younger students learning. Our elementary teacher from the West had her students make digital Christmas cards so they could exchange them with classes from all over the world; they then used *Google Maps* to see where the other children lived, and talked to some of them over *Skype*. When they were learning about the Olympics, they followed *Twitter* accounts to keep abreast of the latest news. In the same school, the Grade 8 world history students took turns summarizing the three most important elements of the daily lesson and posting them on their class blog. They then followed up with other classes and encouraged other students to read the blog and leave comments. The ability to communicate their own ideas and connect with others down the street or around the world deepened their engagement with their learning and helped them to think more critically about the world around them.

### **New Opportunities for Collaborative Learning.**

As the above examples illustrate, the ability to communicate with others is closely tied to new opportunities for collaborative learning. Students who discuss issues and share their knowledge with others online are able to learn from each other and participate in the kinds of public debates that are central to lifelong learning and the exercise of democratic citizenship. Networked technologies make this kind of collaboration more convenient, but they also make the results of collaboration more visible. Accordingly, the platform not only provides opportunities for shared learning – our elementary teacher from the West called *Twitter* the perfect kindergarten shared writing activity precisely because it is limited to 140 characters – but the visibility the platform enables also reinforces each student’s sense of his or her own contribution to the group. As our secondary school teacher from the North noted, his students liked working on shared writing projects on a Wiki or *Google Docs* “because they got to see ... this is my

contribution. Here it is ... It's a belonging; I think that's why *Facebook* is so popular. The need to be connected: I see it. There it is, right there."

This connectedness can deepen and enrich learning by making it both more personal and more social. For example, our elementary teacher in the West works with a colleague who teaches Grade 12 in another town. The kindergarten students will often draw pictures and send them to the high school students, who write stories based on the drawings. Then the two groups will connect by *Skype* for a virtual story time during which the older students read their stories to the younger students. The two teachers have found it an excellent way to build oral language and early literacy skills for the younger students and interpretive and expressive skills for the older students. One day, they decided to use a similar method to introduce the kindergarten students to Shakespeare. The Grade 12 students recorded some soliloquies and emailed them to the kindergarten students who then drew pictures to illustrate what they heard. Amazingly, the younger students were able to pick up much of the meaning of the plays.

A number of informants also talked about the power of collaborating with students from different cultural backgrounds. *Skype* in particular was seen as a way to help students connect with others and begin to appreciate a variety of life experiences and perspectives: "in terms of diversity education, it's doing wonders for my kids and their abilities to have compassion, understanding and appreciation for different cultures" (elementary teacher from the West).

### **Working with Individualized Learning Styles.**

The same technology that allows for increased collaboration can also make it easier for teachers to provide learning opportunities specifically tailored to individual learning styles. Our informants talked about creating podcasts so auditory learners could work on phonetics, and linking dictation podcasts to online auditory dictionaries. iPads and touch-sensitive smart boards are helpful for visual, tactile and kinaesthetic learners of all ages. The kindergarten class of our elementary teacher from the West spends "a lot of time collaborating with other classrooms and people around the world." Our elementary teacher from Quebec, for example, told us she uses a smart board to teach students about angles by creating a virtual protractor: "I have kids that really, really struggle with math ... I can say, just go to the Board and use ... the protractor there ... you can manipulate it, move it around, see through it ... The ones that are more paper-and-pencil oriented, they're over with me using the paper and pencil. It's addressing all the different learning styles."

Networked technologies are also particularly helpful for special needs students. A number of informants told us that students who have difficulty concentrating often work better when they are listening to music on an iPod, and students who have trouble sitting still respond well to tools that enable them to engage their bodies and move while they are learning. Technological tools can also provide special needs students with an opportunity to demonstrate their knowledge in new ways. Our secondary school teacher from the West told us that he was working with a high functioning autistic boy who was having a great deal of difficulty with written assignments: "Writing was almost impossible for him, you know, and he hated it, and honestly, he wasn't very good at it." So the teacher loaded Dragon Dictation on an iPad; as the student spoke into the iPad, the software would transcribe his words for him. Although he continued to work on improving his own writing, the student was able to "show his learning [in a way] that is not so painful for him." This enabled him to demonstrate his knowledge of other parts of the curriculum and helped reinforce his own sense of competency.

## Managing Technologized Spaces

Our informants agreed that technology can enhance learning when the focus is on pedagogy and the students' needs. However, networked devices can also complicate the learning experience by opening up the boundaries of the classroom in new and unexpected ways. To date, Canadian schools have focused on protecting students from access to offensive content, often, as noted above, in ways that constrain the teacher's ability to provide students with digital literacy skills. However, networked devices also allow students to open up the privacy of the classroom for their own purposes, and this can affect the social relationships that are at the core of learning.

Our secondary school teacher from the Atlantic summarized the thoughts of many of our informants when he said:

... it takes a lot of energy to create a moment of learning, for individuals and a collective group of people. Learning is a series of connections, I believe. Learning is about connecting what you don't know to what you do know and making a new connection, and that connection has to be reinforced. It's a teacher's job to help students see and make those connections.

He went on to say that those connections flourish in a private space where students feel comfortable expressing themselves and trying on new ideas. Simple technological intrusions, like a call over the public address system or a student stopping in the middle of gym class to answer a text, can disrupt the learning process. However the interruption is magnified when others in the room can surreptitiously record a video and then post it on *YouTube*. The resultant loss of boundaries not only interrupts the learning process; it profoundly reconfigures the relationships of trust that are so central to learning:

... in a classroom there's a lot of trust that would be broken if the students were knowingly recording the conversations of their peers and posting that online. When the conversation was intended to provoke intellectual curiosity and you're expected to take intellectual risks and really share and expose your thoughts about a particular text or event, to have that trust, that collaboration, that safe learning environment sort of ruined from access to technology or a recording device or posting online, I don't know if you could overcome that to build that kind of classroom.

Our secondary school teacher from Ontario echoed this conclusion. He told us that the most important thing a teacher does is create a sense of "community where everyone can feel comfortable in the classroom." When technological devices are used to dissolve the boundary between the classroom and the outside world, it is more difficult to create the trust that is central to this sense of community. Our secondary school teacher from the North expressed the same sentiment: "...they need to trust you in order to take risks ... being able to answer questions and know that if I get a wrong answer, that's okay, they won't laugh or make fun of me. That's risk taking for some students. That's a big risk." The potential embarrassment of being exposed on the Net is enough to make many students disengage from the learning process itself.

A loss of control over the boundary between the classroom and the outside world also constrains the teacher's ability to interact with students in an authentic way. None of our informants argued that they should not be held accountable for what happens in the privacy of

their own classroom; they all took the position that they were professionals and accordingly comfortable with being observed in the classroom. Our secondary school teacher from Quebec related: “I don’t walk into my own classroom thinking I’m powerless now because they’re going to film me and put me on *YouTube*. I behave in a certain way every day and I maintain my professionalism, so I’m not concerned with it. But I can see how this is a problem ... There are personal boundaries that are not to be crossed.” However, opening up the private space of the classroom to public scrutiny encourages teachers to self-censor in ways that restructure their behaviour.

Our secondary school teacher from the Atlantic told a story that illustrates this well. While he was chaperoning the Grade 12 graduation party, a number of the chaperones decided to dance. However, as soon as they did, the students pulled out their cell phones and starting videotaping them. Our informant “instantly stopped dancing, and I was really disappointed that that was my reaction. But I had no interest in being posted on *YouTube* and not having control over how others view me through this sort of context, having a good time dancing with the graduating class.” He concluded that these kinds of incidents create “a constant sort of awareness of what is for the community, the classroom, or within a school, and what is open to anyone. I have no problems with the surveillance of schools or the monitoring of what’s going on; that’s not my issue. My issue is more around the sense that it’s difficult to build community and trust within a small space if it’s constantly being coaxed into a wider public domain.” Our elementary teacher from Quebec put it this way: “A lot of people are on guard because they find devices to be detrimental ... it makes you be not real in your classroom, and you have to be real in your classroom.”

There was also strong agreement that sites like *Facebook* are very problematic for teachers. Many of our informants chose not to create a *Facebook* account to avoid the pitfalls of not being able to control the boundary between their professional lives and their personal lives; the rest used high privacy control settings and refused to accept friend requests from current students. Our elementary teacher from the Atlantic observed: “[*Facebook*] is really personal and we really inform teachers to be really careful when they use *Facebook* at home. They are teachers 24 hours a day, 365 days a year.”

Once again, this crossing of boundaries creates teachable moments. Our elementary teacher from the West asked her students to google themselves because it was an excellent way to illustrate the loss of privacy when information about oneself shows up unexpectedly. However, when one of the students googled the school, the first hit was for a *Facebook* page entitled “[Name of School] Sucks”. The page had been created by a former student and a number of current students had posted negative comments about other students. The class was dismayed because this would be also be the first page a Skype friend would see if they googled the school, and they felt it presented a very bad image of their community.

Two of our informants told similar stories about students posting embarrassing pictures of other teachers at their schools. Even though the pictures were not compromising in and of themselves, the teachers felt that their privacy had been invaded by the students and that this disrupted the trust that is central to the student-teacher relationship. Our secondary school teacher from the North explained, “The teacher was very upset about it. I think there was probably a lack of trust there; it happened without the teacher’s consent ... It’s a privacy issue ... you’re doing something behind my back without me knowing about it and you’re putting me on display for others to see. And I don’t want that. I feel exposed or betrayed or violated.” Our secondary school teacher in Quebec indicated that the incident was why the school banned all

smart phones and networked devices from the classroom; teachers were so upset that they rejected the learning opportunities that come with networked technologies in order to re-establish a respectful community environment in the school.

### **Maximizing the Benefits – Digital Literacy and Online Citizenship**

Our informants concluded that technology can only enhance learning if students are taught to think critically about online content and to evaluate their own behaviour against a set of shared social values. Our elementary teacher from the North told us, “the biggest skill they need is a moral compass ... and an immediate reaction of, ‘Oh, that’s bad.’” Our elementary teacher from the West tied this to broader curricular outcomes for citizenship and community-building:

One of the big mission statements and themes of our school is building character today for communities of tomorrow. So we are always tying things back into good character and how we want to be perceived by others, and how we want to treat others how others treat us ... technology provides one more way to teach it, one more way to make it relevant to students.

Our elementary teacher from the North supports this view: “As much as we dislike it, we have to understand that there’s a whole new literacy out there that we have to be teaching, and a lot of it revolves around ... citizenship.”

Digital literacy, then, is not about technical proficiency, but about developing the critical thinking skills that are central to lifelong learning and citizenship. To meet the challenge, schools must focus on pedagogy, and provide training and support to help teachers incorporate technologies into all elements of the curriculum in ways that facilitate individualized learning and teach students how to collaborate with learners both within and outside the school community.

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**The Writing is on My Wall:  
Engagement and LearNING through Social Networking:  
An Interactive Digital Collaboration  
Between Students of the Present and Teachers of the Future**

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**Abstract**

In this paper, we describe the experiences we had using a social networking site (Ning) to promote collaboration between an elementary class of grade 7 and 8 students and preservice teachers at the University of Ontario Institute of Technology (UOIT). As part of a digital media project exploring the effects of the media on adolescents, students interacted on the site with Dr. Hughes' preservice teachers who are currently attending UOIT. We discuss some of the activities involved in this project, the challenges and benefits of using a Ning and reflect upon the uses of this intuitive and interactive multimodal technology, which allows students to communicate with their peers and others in a secure and engaging social community.

With the proliferation of Web 2.0 tools becoming available to teachers and students today, particularly those which offer collaborative and interactive communities such as wikis and blogs, and with the slow but steady increases in bandwidth in elementary schools, the mode and content of Web 2.0 interactions are becoming increasingly multimodal. In this paper, we focus on three critical features of Ning; construction of knowledge through student and preservice teacher collaboration, creation of an affinity space (Gee, 2004) or Community of Practice (Wenger, 1998; 2000; 2007) in order to foster a sense of community amongst and within the two groups of students and their instructors, and the provision of opportunities for multimodal communication.

**Context**

**Online Learning Backgrounds**

When Janette first began teaching at UOIT in 2006, she found herself transitioning from the more traditional text-based and content-oriented online courses that she had previously developed and taught, to environments that put more emphasis on constructing collaborative knowledge, and which were increasingly multimodal. Prior to coming to UOIT, she also developed courses at a large faculty of education for their Continuing Education programs, which are for teachers who are seeking additional teaching qualifications. These courses employed an asynchronous Web 1.0 platform and delivered the program through a set of static learning modules.

As an elementary school teacher, Stephanie's experiences with asynchronous learning environments had been mainly from a learner's perspective having taken several additional qualification courses including a Specialist designation in Integration of Information and

Computer Technology in Instruction through Queen's University, using primarily the Web CT platform. As a current graduate student in the Faculty of Education at UOIT, she has worked recently in both synchronous and asynchronous learning environments such as Adobe Connect, Web CT and Ning. Stephanie's current professional practice differs widely as well due primarily to the lack of resources and infrastructure currently available within the public elementary school system. Some progress is being made in terms of access for both teachers and students to digital resources and tools, but the process has been halting and fraught with obstacles and delays.

At UOIT, where the use of technology has become ubiquitous, online learning and Web 2.0 tools have become integral to teaching due not only to their convenience and their ability to improve accessibility, but also because the traditional view of literacy has changed and now encompasses a multiplicity of literacies, including digital literacy. The definition of literacy, which once referred only to the reading and writing of print text now includes all forms of texts that convey messages including videos, music, images, songs, gestures and more. According to Lankshear and Knobel (2007), new literacies, in addition to their technical or digital characteristics, also require a new mindset or ethos which emphasizes collaboration, participation and distribution.

Today's social interaction has been altered and expanded by changes in the way individuals make meaning, as well as the materiality of texts. According to Kress and van Leeuwen (2001), in a digital environment "meaning is made in many different ways, always, in the many different modes and media which are co-present in a communicational ensemble" (p. 111).

Over the past several years, Janette's preservice teachers have used a variety of interactive web tools such as blogs and wikis to engage with young students in Tanzania, young adults in an ECE program, with adolescents, and with their peers studying to be teachers in the UK. In our collaborative research partnership we have explored the use of blogs, podcasting, digital poetry and such web-based programs as Glogster, Wordle, and Xtranormal in Stephanie's classroom. In 2010-2011 we collaborated on a digital literacy unit using a Ning network as well as other online sources which explored social justice using the theme of the impact of war on children. We found that this type of collaborative teaching and learning fosters the sharing of ideas that can generate enthusiasm, construct knowledge, and encourage creativity, in a safe, low-risk environment.

### **Students and Social Networking**

There are a number of reasons why we explored the use of a social networking site such as Ning in our collaborative teaching project. First, the platform offers flexibility for both students and instructors. For pre-service teachers, Ning allows all students to participate according to their own schedules, breaking down any potential barriers, both temporal and spatial. This is important for elementary students as well as there are necessarily limitations in terms of time and technological resources as to when students may participate on Ning during school hours; its web-based design and the asynchronous nature of the tool allows students to pick up where they left off and rejoin the discussion when they arrive home from school at the end of the day. Additionally, given the busy lives of both sets of students and their extra-curricular pursuits, the flexibility of being able to participate in the course according to their individual schedules was very appealing.

Secondly, Ning allows all students to participate fully in their learning, without competing with one another for the attention of the teacher/professor. In this way, students who are quieter

in class, who are averse to risk and rarely speak up or share their views in the classroom are able to contribute their thoughts, ideas and opinions in a forum where they may take their time before responding, and where they are not openly judged by their peers when they do contribute to the discussion. Likewise, for students who require time to reflect before responding, the asynchronous environment of Ning allows them the time they need to collect their thoughts and to produce their best work.

The third and arguably the most important reason for using a social networking site such as Ning, is its potential for increasing the level of engagement and enthusiasm for learning of the students by bringing an element of their digital culture into the classroom. Without question, social networking sites such as Facebook, with over 750 million active users, more than half of which, according to Facebook statistics are between 18 and 34 years of age, are an integral part of most students' social lives. And, despite the posted age restrictions on the site, the young adolescents in most elementary schools, Stephanie's own class included, are no exceptions. According to Boyd (2006), there are three defining features in social networking sites: 1) users set up personal profiles which can include names, nicknames, age, gender, location and a photograph; 2) they encourage interaction with "friends" or "contacts" who usually need to be accepted or confirmed, and 3) they may leave comments, statuses or other postings that are publicly displayed. Encouraging the students to interact with their peers in this way increases engagement, builds relationships and leads to personal investment in the site. Additionally, in working with young adolescents in an elementary school, it was important to use a platform that mimicked an authentic social networking site such as Facebook, yet afforded the security and privacy required for a school-based project. In setting up the Ning, we were able to adjust the settings to ensure that only our students (both preservice teachers and elementary students) would have access to the site, which was reassuring to both the school administration and the parents of the young students.

As part of the research aspect of this project, Stephanie conducted a short, anonymous online survey for her students and asked them six questions to ascertain their impressions and to receive feedback on using the Ning and interacting with the pre-service teachers. Some of the results of this survey appear in this paper, as well as some of the anecdotal responses from the students which articulate their opinions on using the Ning, interacting with pre-service teachers, and online responding as compared to traditional pen and paper journal responses.

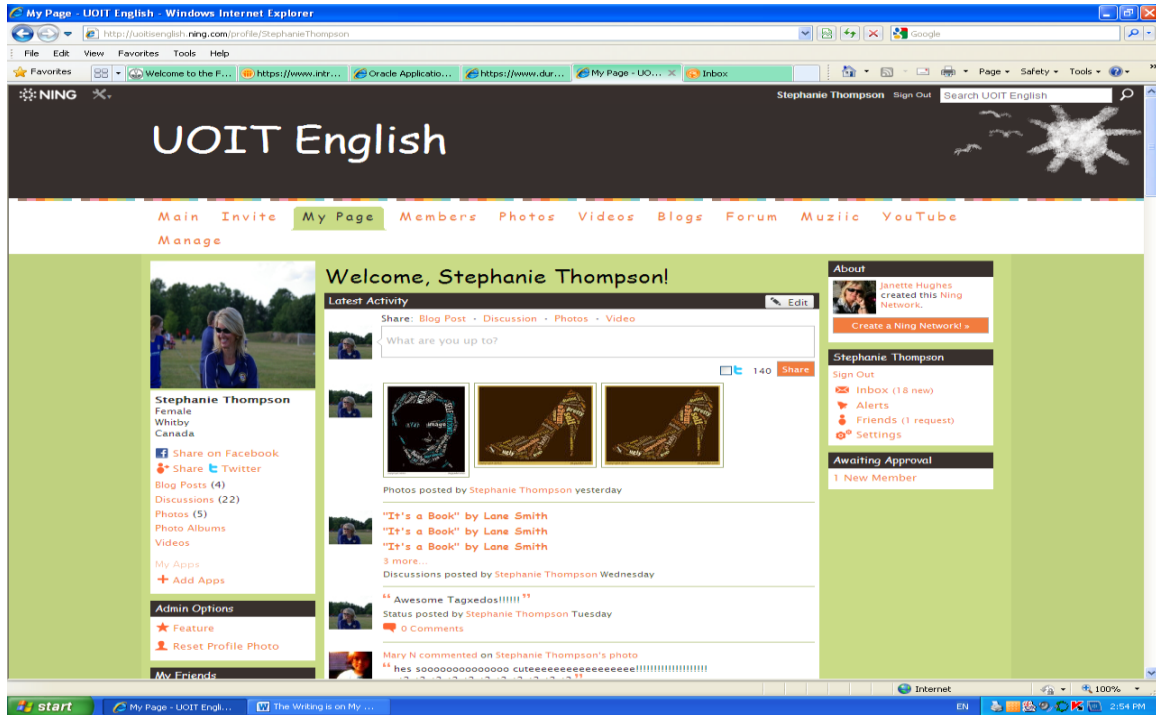
Overall, the goal in seeking this platform was to find a space where both groups of students as well as the instructors could get to know one another better, where they could discuss relevant issues in an organized way, and where they could share and build on ideas and multimodal content such as images, video and audio files, in a secure, user-friendly environment.

### **Teaching with Ning: Setting up the Ning Network**

When designing a Ning network, there are many options to choose from in terms of colour schemes and themes. There are tabs and sub-tabs that can be used to facilitate navigation. For example, the "members" tab allows teachers to click on individual students to view all of their contributions to the Ning. Users are able to customize their profile pages by creating their own design, and the students in both groups took full advantage of these options. As a result, the profile pages looked very different from one another as they were personalized in terms of colour schemes, fonts, widgets, photos, etc. Like Facebook, Ning members may "friend" other members, send virtual gifts to one another and "like" comments, photos and videos posted by the

other members. Network settings were set at private, for members only, and were password protected. Course members were able to invite additional members to the Ning but these new

Figure 1. Sample Profile Page.



members had to be approved by Janette and Stephanie, as the designers of the network. In order to facilitate the interaction between the elementary students and the pre-service teachers, we set up a series of six groups, designated by colours, and Stephanie assigned each of her students arbitrarily to one of the groups. Janette then assigned a certain number of her preservice teachers to each colour group and they were instructed to interact with the students in that group. Each week, Stephanie posted a discussion topic to which she asked her students to respond, some with links to on-line articles, some which required the viewing of a YouTube video, and some which were just text-based. Stephanie's students responded either during the appointed time in the lab at school, or at home from their personal computers and laptops. Janette's pre-service teachers then responded to Stephanie's students, providing their own personal comments and feedback, sharing their own stories and opinions, and asking additional questions of the students.

In terms of moderation, we considered approving students' submissions prior to posting, including the uploading of various media files, before they appeared on the Ning, but given the enormous number of postings, particularly at the beginning of the project when students were setting up their profiles, customizing their pages and interacting with one another, it became too onerous and time-consuming to approve all submissions. Unfortunately, but perhaps not surprisingly, there were a few instances where the elementary students posted comments or content that was inappropriate for the site, and those concerns were addressed on an individual basis, and this behavior soon stopped.

## **The Benefits and Challenges of Using Ning**

In 2011, Kear released the results of a survey on teaching with social networking in which she identified the main benefits and challenges for teachers in using this instructional medium. Her results indicate a correlation between these benefits and challenges, arguing that, for many of the benefits of online learning there is a corresponding challenge. For example, the temporal and spatial flexibility of an asynchronous online learning site can be offset by the overwhelming flow of information. Her research aligns the benefits and challenges as follows: Convenience and Flexibility versus Information Overload; Learning with Others versus Low Participation; Engagement and Belonging versus Impersonality. In this section, Stephanie will discuss our findings in terms of the benefits and challenges of using Ning under Kear's framework. She will also draw upon her experiences and observations in terms of the Web 2.0 ethos focusing on student participation, collaboration, multimodal communication and collective knowledge.

### **Convenience and Flexibility versus Information Overload**

As mentioned, Ning offers convenience and flexibility for both elementary students and pre-service teachers; however it also provides benefits to the instructors in similar ways. Ning provides the option of having email notifications for each posting which allows instructors to track participation, and also to send friendly reminders to students who have not responded. It also allows instructors to access the statistics of each member to track number of responses, videos, and images posted. This affords instructors the ability to remain "in the loop" at all times, to follow all discussion threads easily and to maintain this level of engagement throughout the learning process.

In the beginning, when the elementary students were investigating the site, they spent a great deal of their own time at home adding photos, videos, changing fonts and colours in order to personalize their pages. Once these were set up to their satisfaction, they began "friending" one another and investigating the pages of their "friends." This led to new ideas, more photos, videos and music being downloaded and shared, virtual gifting of ribbons, and building onto one another's pages.

Given the widely varying time management skills of my students as well as the time required for responding to the postings, many of her students spent a great deal of their personal time accessing the Ning from home. This flexibility allowed the students to deepen the level of commitment to the site and supports the idea that they were engaged in the process. In my own personal experiences as a graduate student, I, too, can attest to the benefits of an asynchronous platform such as Ning due to the opportunity for reflection prior to responding to peers and instructors.

An additional benefit that I identified was that when they were not restricted by tight time parameters, the students produced work that was more thorough, more thoughtful and reflected a greater degree of critical thinking. As one student commented in the survey, "I also like how instead of a regular journal, we have a more fun environment and are more excited to do the questions because it relates to what we like to do in our free time and we can access it anywhere." Having said that, there were also students in my class who spent little personal time crafting well-written responses but used the bulk of their time both at school and at home avidly pursuing the more social aspects of the site, to the point where they needed to be gently reminded as to the requirements of the weekly assignments.

This kind of prolific posting and the instructor's wish for continuous active engagement is what can create one of the challenges of using a Ning network. Tracking, reading and

responding to the posts is extremely time consuming and can lead to overload. For example, since September 27, 2011 when we started our Ning to January 26, 2012, a total of 194 photos were posted, 66 videos, 108 blog postings and 131 forum posts, which adds up to a significant number of hours of reading, viewing and responding.

### **Learning with Others versus Low Participation**

One of the most frequently cited benefits of online learning is the potential for collaborative knowledge construction. In order for this type of effective learning to take place instructors must achieve and foster an “affinity space” (Gee, 2004) or “community of practice” (Wenger, 1998, 2000, 2007; Salmon, 2005). Gee (2004, p. 9, 73) describes affinity spaces as “specially designed spaces (physical and virtual) constructed to resource people [who are] tied together ... by a shared interest or endeavour ... (p. 73). Wenger (1998, 2000, 2007) has coined the phrase ‘communities of practice’, groups of people who have a passion or interest for something they do and interact on a regular basis in order to improve their skills. Anderson suggests that “[i]nformal sharing of experiences is often the most valuable result for groups of [individuals] engaged in formal education, and it is likely that it constitutes a significant enhancement to ... education” (p. 32). Social networking sites encourage users to build upon one another's ideas and thoughts, which leads to the formation of a collective intelligence. This type of social, collaborative and dynamic activity exemplifies the social constructivist paradigm.

For my elementary students, using the Ning was one of their first exposures to such a collaborative activity. Previous responses had largely been handwritten works in paper journals, with no opportunity for sharing thoughts or building knowledge with their peers. The Ning afforded them the opportunity to first of all, become aware of the ideas, thoughts and opinions of their classmates, and then to reflect upon their responses and their own ideas as well as those of their peers, before sharing them in the discussion forum. To illustrate the point, some of the comments retrieved from the survey are as follows: “I would like to use the Ning again because I think that it can be really interesting to see what the TC (teacher candidates) think of my responses. I think that it's interesting that the other TCs who are much older than us, still treat us and judge our responses like we are equals and I like that aspect of it a lot” and “the different ways of corresponding on the Ning make for a more thought provoking and interesting conversation” and “I would like to use it because it is easy to get feedback from students and teachers so I know where I went wrong and where I can improve.”

However, there can be many challenges involved in creating a sense of community in an online forum such as Ning. As Mason and Rennie (2008) state, “online discussions can easily become disjointed with points being made in isolation from others and questions that have been posed never being answered” (p. 91). This was a problem that we faced with some of the elementary students; despite our best efforts to clearly delineate where they should be posting their responses, there were still students who posted their responses in a virtual no-man's land where neither their peers nor their instructors could find the comments without embarking upon an onerous search. The comments and questions posted in these areas did not always receive a timely response, which was frustrating to the students. Also, students who did not adhere to the time guidelines and who posted comments late frequently missed out on feedback from their peers who had already gone on to the next topic. This is one of the disadvantages that can arise in online discussions. As Mason and Rennie (2008) note, “collaborative work becomes very difficult to bring to a conclusion when some students have not contributed” (p. 93). In the case of the elementary students, in some cases they were disappointed and discouraged if they did not

receive a timely response from their assigned pre-service teachers, to the point where they did not want to continue the correspondence as too much time had passed; others never received any feedback, comments or a response at all, which justifiably frustrated them and made them uninterested in future programs of this nature. As one student stated in the survey, “My teacher candidate didn’t even write back to me. This was very frustrating. If we did this again, I think it would have been more effective if everyone’s teacher candidate wrote back to them.”

As far as participation goes, Kear (2011) believes that unless students actively and frequently engage in the process, they will not reap the educational benefits of online learning. It is up to the teachers to monitor student participation. There are always differences in degrees of participation where students are concerned; usually there is a small group of prolific posters, a group who meets or barely exceeds the expectations and a small percentage who are reluctant to or do not participate. In my group of students, everyone participated but not all with great enthusiasm. In most cases, the quantity of postings was frequently tied to a higher level of engagement and commitment to learning. Overall, for the majority of students, Brady, Holcomb and Smith (2010) argue that using a social networking site such as Ning “has the potential to increase student engagement” (p. 152). In their survey of fifty graduate students who used a Ning to enhance their learning, they confirm that social networking sites like Ning afford “significant e-learning benefits in their courses” (p. 157) and have “positive effects on student engagement” (p. 156). In my own survey, results showed that 63.6% of the students reported it to be either very or somewhat stimulating and interesting to interact on the Ning with the UOIT teacher candidates and 75.2% would be either very or somewhat interested in interacting with UOIT teacher candidates again. The following written feedback taken from the survey confirms these views: “I like the Ning because I like receiving and seeing what people have to say about my work” and “I liked using the Ning because it’s much faster and it helps you keep up with your thoughts.”

In a study of the use of Moodle and Facebook, DeSchryver, Mishra, Koehler, and Francis (2009) agree that there is a positive correlation between social presence and active participation in online discussions. Additional research confirms that students with a higher degree of online social presence are often more likely to be more engaged in these conversations (cf., Brady, Holcomb & Smith, 2010; Cobb, 2009; Swan & Shih, 2005). Cobb (2009) argues that, “when information is presented in a way that increases social presence, it is better remembered by learners and the learning process is considered more engaging” (p. 242). In a review of the literature surrounding relationships among social presence, motivation and online learning, Bai (2003) concludes that social presence “can enhance closeness in online learning communities, reduce feelings of isolation and detachment, encourage interactions and facilitate participation in online learning” (p. 2717). Further to Bai’s thoughts, given our observations as well as the results of the survey, we agree that interacting with their peers and with the pre-service teachers fostered a sense of community for my students, made them feel connected, important, and that they had a voice. Their opinions were validated, respected and valued which encouraged further elaboration and sharing of their ideas and thoughts.

### **Engagement and Belonging versus Impersonality**

There is much research evidence to indicate that many individuals who participate in asynchronous learning platforms believe that the process is impersonal (Hung & Yuen, 2010; Mason & Rennie, 2008) and can lead to difficulties being social in these environments (Kear, 2011). Brady, Holcomb, and Smith (2005) argue that social networking sites such as Ning may

provide a solution for this issue due to their potential to enhance the participants' "social presence" defined by Swan and Shih (2005) as the "degree to which participants in computer-mediated communication feel affectively connected one to another" (p. 115), by Picciano (2002) as a "student's sense of being and belonging in a course" (p. 24), and by Rourke, Anderson, Garrison, and Archer (2001) as "the ability of learners to project themselves socially and affectively into a community of inquiry" (p. 50). Our decision to use a social networking site, and Ning specifically, because of its similarity to Facebook and because of its user profile, photo and "wall" option, where members can update their status, reaffirms our belief in the importance for students to be able to demonstrate their identities; what backgrounds, ideals, beliefs, and experiences they bring to the learning environment.

In their work exploring how individuals' identities affect discussions, Ke, Chavez, and Causarano (2011) conclude that identities are critical for extracting meaning from discussions and Kear (2011) points to the importance of beginning from "an inviting place" where "contributions should be friendly, supportive and informal" (p. 73). My students echoed this sentiment in the following comments: "I do like that it gave me more of a fun and interactive way to do my work and it gave me a way I was more used to working with" and "using the Ning is funner."

By personalizing their spaces they established their presence on the Ning, which instilled a sense of confidence in the students; they were in familiar territory, having had their own experiences with social networking on Facebook, they felt that they were operating within their comfort zones and were thus able to smoothly transfer their knowledge to the Ning. This put them on more equal footing with the pre-service teachers and allowed for better flow of conversation between the two groups.

By having someone other than their teacher reading their work and by having it open and available to a wider audience, the students felt as if they had something important to share with the community. Additionally, knowing that their writing was subject to perusal by others encouraged some of the students to write in a more thorough and thoughtful manner. Conversely, a few students were intimidated at the beginning of the process as they were unsure as to how their musings would be interpreted or judged by the pre-service teachers. As one student wrote, "I prefer to type than to write, but I don't like it when anyone can see what I'm writing and judge me on the site."

The multimodal affordances of the Ning network provided students with a multitude of ways in which to assert their social presence, and offered them the means to become members of an on-line community. They participated in social practices such as using greetings and writing supportive comments to one another. They contributed anecdotes from their personal lives, some of which expressed their thoughts and emotions, directly and indirectly communicating beliefs and values, and providing insight into their characters and personalities. In addition to contributing to the creation of a community of learners and collaborators, students felt at ease to share their thoughts, opinions and newly-developed understandings, and to add images, videos and music to their comments to further develop their social presence on the Ning. The students contributed a total of 194 photos on the Ning, which were mainly comprised of personal photos, pets and other animals, pop stars, band logos and vacation scenes. The videos they uploaded were virtually all music videos and primarily pop stars. In reviewing the member pages of my students, I was amazed to see how comfortable they seemed to be on the Ning, how they had made it their own and how they had adopted it as a means for discussion and sharing with their schoolmates. This is further testimony to the power of social networking both as an engaging

community for learning and as a means of encouraging belonging and social development in our students. As one of my students put it, “Overall it was an awesome experience and I think I'd rather write responses on Ning vs. writing responses in a journal. I hope I have the chance to use Ning again in the future.”

### **Conclusion**

There exists a great deal of literature on Web 2.0 technologies and their participatory and collaborative nature. In particular, social networking sites like Ning have tremendous potential for engaging our students in digital learning using their social aspects as well as their facilities for multimodal communication. Our experiences using a Ning network to facilitate collaboration between elementary students and pre-service teachers support the findings of recent studies (Brady et al, 2010; DeSchryver et al, 2009; Hung & Yuen, 2010; Kear, 2011) and confirm the value of this educational tool. As an online learning platform, Ning can promote intellectual growth, social connections and learning, but it is imperative that we, as instructors, ensure that the interaction between the students is well-organized and monitored, and that interactions are meaningful and authentic. This emphasizes the need for finding digital tools which align with instructors' pedagogical goals and theoretical perspectives, and also reminds us that how we use those tools is what is most critical. Kress (2003) believes that soon technology will rule all of our communication practices and language use. Today's elementary students have grown up using a variety of types of technology and media in their personal lives which have allowed various forms of multimodal communication. However, their classrooms are another matter, and teachers are still typically heavily reliant on print text, and offer limited opportunities for exploration of multimodal technologies. It is for this reason that the Ning project was so revolutionary in my classroom, and what led to comments such as the following from my students: “The different ways of corresponding on the Ning make for a more thought provoking and interesting conversation” and “It seems to me like it's a lot easier to put my thoughts into digital writing than to put them on paper. I feel like I have more freedom that way and Ning gives me that, so I really enjoy it.”

The sentiments of these students are a testament to the power of social networking as an educational tool. In combining the power of a culturally relevant, flexible, and interactive medium such as Ning with the social interaction with peers and new acquaintances such as the preservice teachers at UOIT, and providing engaging, educational and authentic discussion topics, we believe that we have taken important steps in the development of a new and effective instructional strategy, while adding an invaluable resource to our pedagogical toolboxes.

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## **Internet Use for Literacy Lesson Preparation by Teacher Candidates**

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### **Abstract**

Although it is well established that some teachers use the Internet frequently for lesson preparation, little is known about how they retrieve information or about the characteristics of those who use the Internet for this purpose. This study examined teacher candidates' use of the Internet during literacy lesson preparation and explored the possibility that social media might assist them in finding potentially useful resources. Data were collected using screen capture technology, recording each visual step while participants navigated through the Internet during lesson planning. Analyses indicated that participants conducted three or more Google searches on average and that government, commercial, teacher hosted, and organizational sites were most often visited. These visited websites were used to find more information regarding the lesson plan, to generate ideas by examining what's available, to look for materials for the lesson, and/or to copy lesson plans directly from a website. Participants appeared to find practical and/or research-based resources sporadically, but more often they became frustrated at searching and re-searching on the Internet without finding appropriate material for their lessons. Findings indicate that teacher candidates desperately want knowledge-sharing media, such as Facebook, blogs, Twitter, and/or discussion forums, to assist them in locating useful and effective practices.

### **Introduction**

Research on teacher use of technology has shown that the Internet has had a significant influence on instruction preparation by providing easy access to information and a setting for teachers to find and share lesson plans (Akinoglu, 2009; Bebell, Russell & O'Dwyer, 2004; Becker, 1999; He & Hartley, 2010). Currently, thousands of lesson plans are available online and increasingly, "general and special educators report the Internet as a resource to supplement lesson preparation and access relevant information to be used in instruction" (Smith & Meyen, 2003, p. 5). The examination of technology use shows that the majority of teachers use technology for lesson preparation, grading, and professional email use (Becker, 1999; Becker, Ravitz & Wong, 1999; Cuban, 2001; National Center for Education Statistics (NCES), 2000; Russell, Bebell, O'Dwyer, & O'Connor, 2003).

Although it has been well researched that teachers are using computers and Internet frequently for lesson preparation, little is known, however, about *how's* of Internet information use by educators during lesson preparation. In fact, there is a paucity of published literature in this area. Questions such as the following have either not been considered at all or have only received cursory attention: How are teachers navigating through the Internet?; How do they find educational websites?; and How do they select which website to use?; and more specifically, How do teachers use selected educational websites during instruction preparation?

Smith and Meyen (2003) asserted that the Internet has the possibility to revolutionize teaching given that teachers are the key to implementing any research findings, and websites have the potential to provide practical, accessible, and research-based tools for teachers (Cuban, 1993; Wasburn-Moses, 2006). For that reason, it is crucial that the research community begin to

examine how these technologies influence instruction (Karchmer, 2001) and how they are being actually utilized. Therefore, the purpose of this exploratory study is to examine how teacher candidates use the Internet while preparing lessons, with the goal of using the obtained information to guide the development of an evidence-based literacy education website ([www.LitDiet.org](http://www.LitDiet.org)) and, thus, facilitate the dissemination of effective teaching strategies through the Internet.

### **Internet Use during Lesson Preparation**

He and Hartley (2010) stated, “lesson planning is considered a critical but complex task in providing effective instruction” (p. 23; Wang & Wedman, 2003). Further, “experienced teachers create lesson plans in an effort to determine their instructional activities regarding specific subject matter and new teachers can utilize effective lessons to be prepared and to organize the content, materials, and methods for their teaching” (He & Hartley, 2010, p. 23). Early on, teachers are taught the importance of lesson planning and they spend a significant number of hours of their career preparing lessons. The development of the World Wide Web has had a significant impact on the lesson planning process: the Internet has provided a setting for teachers to find and share lesson plans (He & Hartley, 2010).

Archambault and Crippen’s (2007) explored teachers’ use of particular websites and asked them to identify websites they found excellent for use in education. Of the 127 websites rated as excellent, a majority (58%) of the sites had some type of lesson planning bank. The vast majority of the teachers in this study were using the “Internet primarily for gathering lesson plans since teachers identified a website as outstanding when it (a) had some type of lesson planning database designed for sharing ideas for teaching a particular lesson and (b) contained background information in preparation for teaching a given lesson” (Archambault & Crippen, 2007, p. 69).

When teachers use the Internet, they are faced with such an abundance of information and the challenge then, for many teachers, becomes finding resources in an efficient manner, reviewing and identifying instructionally appropriate resources to enhance current curriculum and constructing an effective delivery format to ensure appropriate integration and subsequent learning (Higgins, Boone & Williams, 2000). Research has not directly examined how teachers seek and select resources on the Internet. Although it is well researched that teachers are using the Internet during lesson preparation and that there are many websites available for lesson preparation online, it is still unclear how exactly teachers are using the Internet during lesson preparation.

### **Objectives of the Present Study**

The main objective of this study was to examine how teacher candidates are using the Internet while planning a literacy-focused lesson. Due to the exploratory nature and the lack of previous research in this area, this question was addressed using an informal descriptive qualitative approach.

In addition to the overall descriptive exploration, the research examined the following quantitative questions:

- 1) How much are teacher candidates using the Internet during lesson preparation?
- 2) How much are teacher candidates using the Internet for social networking with Facebook and Twitter?

## Methods

### Participants

The sample consisted of 30 teacher candidates, 24 females (80%) and 6 males (20%) ranging in age from 22 to 39 ( $M = 25.83$ ,  $SD = 4.19$ ). All participants were enrolled in the Bachelor of Education Elementary (Primary/Junior) program at the Ontario Institute for Studies in Education of the University of Toronto (OISE/UT).

### Procedure

Approval was obtained from the Office of Research Ethics at the University of Toronto. Individual interview sessions with teacher candidates were conducted and each interview session began with the interviewer obtaining informed consent to participate in the study, audiotape the session and video record the computer screen during the lesson-planning task. The interviewer first explained the lesson planning task and participants planned their lesson. This was followed by the structured interview that consisted of questions regarding lesson preparation, Internet use, social networking, and demographics. Internet use while participants planned their lesson was videotaped (using screen capture technology) and audio recorded. Their responses to interview questions were hand and audio recorded. Each interview session was one to two hours in duration.

### Data Sources

#### **The lesson planning task.**

Participants planned a lesson that they selected from eight choices at various elementary grade levels and with different literacy components of focus: Junior Kindergarten Concepts about Print, Kindergarten Phonemic Awareness, Kindergarten Vocabulary, Grade 1 Letter-Sound Associations, Grade 2 Reading Fluency, Grade 3 Teaching Different Genre/Text Types, Grade 4 Writing Non-Narrative, and Grade 5 Reading Comprehension Strategies. Definitions were provided for each literacy concept. Participants were given access to the Internet and told they had 20 minutes to plan their lesson with Internet as their only resource. Screen capture software, Camtasia, was used to capture the computer screen and keep a video record of the Internet use. While planning their lessons, participants filled in a Lesson Plan matrix to describe their lesson.

#### **Structured interview.**

During the structured interview after the lesson plan was prepared, participants were asked to answer questions about the lesson planning task and how they plan lessons outside of the present study's context. The structured interview included open-ended questions, specific questions about Internet usage during lesson preparation as well as follow-up questions. For example, "Is this how you usually go about planning a lesson?" and "Do you use books, Internet, supervising teacher, course materials and/or another resource not listed in your teaching placement to aid with lesson planning?"

Participants were also asked to answer demographic questions. For example, "Do you use the Internet as a professional resource while planning lessons?" Participants were also asked about their use of knowledge-sharing media, which included Facebook and Twitter.

## **Data Analyses**

For qualitative data collected, the structured interviews and transcripts from the lesson planning task were analyzed thematically using strategies from grounded theory methodology (Strauss & Corbin, 1998). More specifically, participants' use of the Internet during the lesson planning task was transcribed. This included exact transcriptions of searches conducted (how many, search terms), websites visited, and any comments made by the participant. Then QSR Nvivo 9 software was used to segment and label transcripts into navigation actions that represented meaningful ideas or codes. Similar codes were aggregated and refined into concepts and eventually, subcategories. Finally, these subcategories were amalgamated and sorted to form overarching categories. These categories represent the overall areas of focus for Internet use while preparing a literacy-focused elementary-level lesson (Corbin & Strauss, 2008).

Particular codes and subcategories extracted from the qualitative data were then transformed into quantitative data using an adapted counting approach because "subjecting quantized data to statistical analysis aids in the interpretation of the mixed methods results" (Onwuebuozie & Teddlie, 2003, p. 351). In the present study, frequency of occurrence of observable content (extracted from the data as a code) was calculated by counting the frequency of each code within a subcategory (Onwuebuozie & Teddlie, 2003).

All of the remaining interview questions were scribed and then entered into a spreadsheet. For this quantitative data collected, descriptive statistics and frequencies were calculated using SPSS to determine patterns in the data.

## **Results**

### **Descriptive Qualitative Exploration Results**

#### **The lesson planning task.**

Qualitative analyses were conducted on the transcripts from the video footage of the computer screen during the time the participants planned their lesson. Of the eight lesson plan choices, 33.33% of the participants chose to write a lesson plan for Grade 3 on Teaching Different Genre/Text Types, 30% for Kindergarten on teaching Vocabulary, 13.33% for Grade 2 on Reading Fluency, 10% for Junior Kindergarten on Concepts about Print, 6.67% for Grade 5 on Reading Comprehension Strategies, 3.33% for Kindergarten on Phonemic Awareness, and 3.33% for Grade 4 on Writing Non-narrative. None of the participants chose to write a lesson for Grade 1 on Letter-Sound Associations. To note, one participant did not use the Internet at all while planning their lesson. Although they did not use the Internet during the present study, they did indicate that normally they would have used the Internet to find books that would be appropriate for the age group that the lesson was designed for as well as any images that they may need for executing the lesson.

Analyses were conducted on the 29 participants who did use the Internet and several overarching categories emerged: First Step, Search Activity, and Websites Visited emerged as areas of focus (Table 1). Description of each of these categories and their receptive subcategories, if any, follows.

Table 1. Categories and Subcategories.

First Step	Search Activity	Websites Visited
	Search Engine Used	Types of Websites Visited
	Number of Searches	Use of Websites
	Selecting from Search Results	

**Category 1: First Step.**

The first navigation step with the Internet while teacher candidates prepared their lesson was examined. A majority of the participants first used the Google search engine (48.28%) or went to the Ontario curriculum document (48.28%), while one participant visited a teacher-directed website they were familiar with ([www.eworkshop.on.ca](http://www.eworkshop.on.ca)). This finding suggests that the majority of teacher candidates either first visit the Google search engine to find websites appropriate and useful for the lesson they are currently planning or the Ontario curriculum document to check the expectations for the grade level they are planning the lesson. Participants did not appear to have particular websites in mind to visit when preparing their lesson and instead, were searching for a site that could provide them with something that would be suitable for the lesson they were preparing.

**Category 2: Search Activity.**

To a great extent, Internet navigation while lesson planning involved search related activity. The search activity was broken down into the following subcategories: A) Search Engine Used, B) Number of Searches, and C) Selecting from Search Results.

**A) Search Engine Used**

The Google search engine was predominantly used by participants (96.55%), with only one participant opting to use the Yahoo search engine (3.45%). These results suggest that the majority of teacher candidates utilize the Google search engine when searching the Web.

**B) Number of Searches**

The number of searches by each participant was sorted by the lesson plan choice they selected and then an average was calculated (Table 2).

Table 2. Search Activity: Number of Searches.

Lesson Plan Choice (N=29)	<i>n</i>	Number of Searches	Average Number of Searches per participant (number of searches/ <i>n</i> )
Grade 3 Teaching Different Genre/Text Types	10	45	4.5
Kindergarten Vocabulary	8	27	3.38
Grade 2 Reading Fluency	4	15	3.75
Junior Kindergarten Concepts about Print	3	18	6
Grade 5 Reading Comprehension Strategies	2	11	5.5
Kindergarten Phonemic Awareness	1	3	3
Grade 4 Writing Non-Narrative	1	6	6

The average number of searches for each lesson plan choice varied: for teacher candidates that selected to plan a lesson for Junior Kindergarten students on Concepts about Print and Grade 4 students on Writing Non-Narrative, the average number of searches was 6; for teacher candidates that selected to plan a lesson for Grade 5 students on Reading Comprehension Strategies, the average number of searches was 5.5; for teacher candidates that chose to plan a lesson for Grade 3 students on Teaching Different Genre/Text Types, the average number of searches was 4.5; for teacher candidates that chose to plan a lesson for Grade 2 students on Reading Fluency, the average number of searches was 3.75; for teacher candidates that chose to plan a lesson for Kindergarten students on Vocabulary, the average number of searches was 3.38; and for teacher candidates that planned a lesson for Kindergarten students on Phonemic Awareness, the average number of searches was 3. These results reflect that each participant searched multiple times before finding what they were looking for, looked for different things (i.e., lesson plans, books that work for the lesson plan), and/or gave up searching and, as a result, relied on previous knowledge to write the lesson plan.

C) Selecting from the Search Results

After searching either with Google or Yahoo, the order of the website search results that were visited was coded (Table 3).

Table 3. Search Activity: Selecting from Search Results.

Search Result Selected	<i>n</i> (N=29)	Total Number Selected
First	25	52
Second	17	20
Third	16	23
Fourth	8	8
Fifth	8	9
Sixth and Above	13	23

The first search result was visited the most (52), followed by the third (23) and then the second (20). To note, of the 23 links clicked on at the sixth result and above, only 4 of the search results selected went beyond the first page of search results (the first 10 search results). Overall, the results demonstrate that teacher candidates are likely to click on and visit a website that appears first, second or third in the search results. Therefore, to have a website utilized by teachers, it needs to appear on the first page of the search results and optimally, in the first three search results.

**Category 3: Websites Visited.**

When the websites viewed by participants were examined, two main subcategories emerged: A) Types of Websites Visited and B) Use of Websites. These subcategories closely examine the types of sites participants are likely to visit while preparing a lesson and then, how the participants utilized the websites that they visited during the planning of a lesson.

A) Types of Websites Visited

Every website that was visited while planning the lesson was coded into fifteen different types, also known as concepts. To be coded, the site had to be visited by the participant, if another participant also visited the site it was coded again and if a participant navigated away from the site but then re-visited a different section of the site, it was also coded. The types of websites that were coded more than 10 times will be discussed (Table 4).

Table 4. Websites Viewed: Types of Websites Visited.

Type of Websites	<i>n</i> (N=29)	Total Number Visited
Government	19	30
Commercial	17	23
Teacher Hosted	14	21
Organization	10	15

To note, the length of time a website was visited did not influence whether a site was coded. If the website was visited by the participant, it was coded. This is significant because some participants visited sites for a very short period of time (at times less than a few seconds) and navigated to a different site quickly.

Teacher candidates visited government sites the most, mainly checking Ontario curriculum expectations in order to create their lesson plan accordingly. Commercial sites were also visited often, closely followed by teacher hosted sites which included teacher blogs. These teacher hosted sites had lesson plans, lesson materials and explanations of why teaching the literacy component was important. Teacher candidates also visited organization sites that included evidence based sites often.

Many of the websites that the teacher candidates viewed, they would view very briefly. It appeared that if participants did not see or find something that may be useable for the current lesson they were planning, they would very quickly navigate away to another website or back to the search results that originally led them to the site.

#### B) Use of Websites

Internet sites visited by participants appeared to be used to obtain more information on their lesson plan choice, generate ideas by seeing what lessons are available online, look for materials for the lesson (i.e., books, poems, flash cards), check curriculum expectations and/or copy a lesson plan directly from a website.

A participant that chose to copy a lesson plan found online expressed:

If there is stuff like this, like actual lessons... like this seems like lesson plans that we actually use in teacher's college and that are available online you know, this is it! This is good stuff... This is perfect. I don't even know how I found this. I just Googled it.

Another participant that utilized the Internet to generate ideas by seeing what's available online said, "Honestly I don't really find lesson plans I like on the Internet, I just use them as a starting point, then I write and then I usually... re-write and re-write and re-write."

It appears that teacher candidates really would like easy-to-use and practical lesson plans to be readily available online but they seem to be having a hard time finding free, well-written ones that they can actually use as presented on the website.

A participant who used the Internet to find materials and check curriculum expectations stated, "I'll just use a picture book and not use the Internet really. I'll use it to find a book... and I would use my computer for the curriculum and probably that's about it." This participant preferred hard copy materials instead of online lesson planning materials for lesson preparation.

At times, some participants did not use any of the sites they visited with the writing of their lesson plan: "What if I want to opt out of using the Internet? ... This is exactly what I do, I

would see what's out there and if I think of something on my own, I'll just end up opting to do that." Another stated: "None of this is helping and I kind of had that idea in the beginning." And a third: "It doesn't tell me anything, tells me what it is but doesn't tell me how to teach it. Just tells me about all these studies, oh my goodness!" Although teacher candidates turn to the Internet while lesson planning often, they do become frustrated when their search yields nothing useful. Majority of the time they end up adapting ideas they find online, that is if they find any, or generating their own ideas because their searches and time spent on the Internet did not lead them to a useful website with appropriate lesson plans.

During the present study, teacher candidates finding lesson plans that they felt were appropriate or well written enough to be copied was rare ( $n=3$ ).

### **Interview question regarding lesson preparation.**

After the participants completed the lesson-planning task, they were questioned regarding how they normally go about planning their lessons outside of the study context. Teacher candidates identified that they would use the following resources during lesson preparation: Internet, curriculum documents, books, supervising teacher at their teaching placement, colleagues, and relative/friends that were teachers. Participants identified that they used the Internet as a resource most frequently while preparing lessons: "Definitely Internet first and do a couple of Google searches first until I find something that's appropriate for what I'm looking for." Participants that turn to the curriculum document as a resource explained why: "Generally I use the curriculum document and come up with my own idea because what I've learned is that there's so little teaching time and you have to be hitting these expectations, so always use that (curriculum document) as a starting point."

Two teacher candidates that were hesitant about using the Internet stated: "I use book sources first, don't use Internet first unless I really know what I want to find... Internet has too many resources so harder for me while with a book it's right there" and "Usually first, I call my teacher friend whose a great teacher, has great ideas and a million resources... if I start from scratch, I would just think of it from my head or go online for ideas and Google ideas since I don't know yet all the resources myself and many of them you have to subscribe and I don't want to pay."

Therefore, teacher candidates are making use of the Internet during lesson preparation frequently. Those that are hesitant seem overwhelmed by the abundance of information online, don't know which websites would be useful and do not want to subscribe and pay for online resources that may or may not be helpful. Participants in the present study, although all of them indicated using the Internet as a professional resource during lesson preparation often, are frustrated from not knowing useful websites to visit and conducting website searches that do not result in appropriate resources.

### **Quantitative Results**

How much are teacher candidates using the Internet during lesson preparation? In their teaching placements, teacher candidates reported that to aid with lesson planning, everyone indicated they use the Internet (100%), a high percentage use books (90%), rely on supervising teacher at the placement (86.67%), consult with colleagues/friends/relatives (63.33%), and refer to course materials from OISE/UT (46.67%). When teacher candidates thought of all the hours they spent lesson planning as 100%, they indicated that they use the Internet as a resource a significant portion of that time ( $M=48.35$ ,  $SD=27.12$ ).

How much are teacher candidates using the Internet for social networking with Facebook and Twitter? Majority of teacher candidates reported using the social network site Facebook (90%) weekly and a few of them reported using Twitter (13.33%) weekly suggesting that teachers are often using social network sites.

## **Discussion**

### **Overview of Major Findings**

Consistent with previous findings by other investigators in the computer-technology use in education literature, this study confirmed that teacher candidates are frequently using the Internet as a professional resource while preparing lessons (Becker, 1999; Becker et al., 1999; Cuban, 2001; NCES, 2000; Russell, Bebell, O'Dwyer, & O'Connor, 2003). Bebell, Russell, and O'Dwyer (2004), He and Hartley (2010), Smith and Meyen, (2003), and Tinker (2001) examined and confirmed that teachers are most often using technology and the Internet for lesson preparation but how exactly they are using the Internet was observed and revealed in the present study. Due to the lack of research literature in this area, the results added to a field sparse in data.

From the screen capture videos of Internet use by teacher candidates during lesson preparation, it was clear that the majority of them were very familiar with using the Internet for this purpose. While preparing their lesson, teacher candidates first conducted Google searches to find websites that may be appropriate or useful for the lesson they had selected to plan or examined the Ontario curriculum document to ensure and check that they were creating a lesson that met grade level expectations. Utilizing the Google search engine before doing anything else on the Internet reflected that the participants did not have particular websites that they regularly visited during lesson preparation but instead, were searching for any website that came up as a result of the search terms they entered that could provide them with something that would be suitable for the lesson they were preparing. This significant first step also reflected what teacher candidates ended up spending the majority of their time during the lesson-planning task: entering terms into the search engine and conducting a search, visiting a site listed in the search results, changing the terms in the search engine and conducting another search, visiting another site and so forth. Google was the most widely used search engine. Teacher candidates, on average, searched from three to six times during the lesson planning time. They tended to select from the first three search results when picking which website to visit based on their search terms. Rarely did teacher candidates look beyond the first page of the search results.

Teacher candidates visited government sites the most, mainly checking Ontario curriculum expectations in order to create their lesson plan accordingly. They also often visited commercial sites, teacher hosted sites (that contained lesson plans, lesson materials and information on why teaching the literacy component was important) and organization sites that included evidence based sites. Many of the websites that were visited were only viewed briefly. If the participants did not find something useable quickly, they navigated away from the site promptly.

Teacher candidates used the websites visited on the Internet to obtain more information on the lesson they were planning, generate ideas by seeing what's available online, look for materials for the lesson (i.e., images, books, poems, flash cards), check curriculum expectations and/or copy a lesson plan directly from a website.

Ideally, teacher candidates would like to find sample lesson plans online in the first three search engine results so they could adapt the idea to their own learning objective and classroom. During the present study, it was rare that they found a lesson plan that met their learning

objectives well enough to be copied. Majority of the time they adapted ideas they found online or generated their own lesson plan ideas. This was because their searches and the time spent on the Internet did not lead them to a website with useable lesson plans.

Although teachers report using the Internet a significant portion of the time they spend lesson planning outside the context of the study, they report many challenges. This includes the number of searches that are needed before they find anything useful, being led to websites through the search engine that doesn't provide lesson plans but simply provides more information on what it is, being asked to pay or subscribe to a website in order to make use of the lesson plans available, and not finding anything useful even after spending a significant amount of time searching. Some participants expressed feeling overwhelmed and hesitant to utilize the Internet due to the amount of information that is available online. Regardless of these difficulties, majority of the teacher candidates specified that they would continue to look to the Internet for assistance with lesson preparation.

### **Limitations and Future Research Directions**

This exploratory study was a first attempt at examining how teacher candidates are using the Internet during lesson preparation through the use of screen capture technology. As a result, it is a considerable addition to the technology in education research literature. Nevertheless, several limitations should be noted.

One of the limitations to this study was the 20 minutes loosely allotted time limit for lesson preparation. Many participants expressed that it made the task stressful and that they normally spend a lot more time preparing a lesson when they do so outside the confines of the study. Secondly, participants were not asked about how they are actually using social network site. It would have been valuable to examine how teachers are actually using social networks sites.

One serious limitation concerned the teacher candidate participants: how "real" was what was observed during this study and how much does it apply to teacher candidates after graduation and more senior teachers. Would experience teachers have a list of online educational resources that are useful? Would they use the Internet in the same way while preparing lessons? These questions require exploration.

This study was also exploratory and used open and largely descriptive qualitative methodology. Therefore, it would be very valuable to carry out a similar study and replicate the findings with in-service elementary school teachers.

In addition, future research studies should investigate and follow teachers Internet use when creating lesson plans in the classroom and at home for a set-period of time during the school year. This will provide a more accurate representation of teachers' use of Internet as a professional resource while they are preparing lessons for the classroom. Doing this at the various elementary grades would provide an accurate representation of teachers' use of the Internet.

### **Conclusions**

Teacher candidates reported one of the challenges of using the Internet as a professional resource during lesson preparation is the abundance of lesson plans and lesson-related information available online. They are using search engines to find resources in an efficient manner but the search terms lead to numerous search results to look through. Teacher candidates then have to review the search results, select which websites to visit, and then visit multiple

websites. When visiting the website, they tend to quickly decide whether the website visited would be useful. Consequently, even if the search terms they entered resulted in a research-based and practical website, teacher candidates are likely to navigate away and dismiss the site in later search results if the website did not appear highly engaging or useful during their initial visit. In the present study, teacher candidates appeared to sporadically find resources that may be practical or appeared research based but more often they were becoming frustrated at the lack of availability and the difficulties they were experiencing when searching and re-searching for resources online. Several teacher candidates expressed the need for a knowledge-sharing resource to assist them in discovering useful websites to create their own personal bank of practical websites. Social networking has the potential to be utilized as such a knowledge-sharing resource.

As referenced before, the Internet has the possibility to revolutionize teaching (Smith & Meyen, 2003) for the reason that teachers are the key to implementing evidence-based practices in the classroom and Internet websites have the potential to provide practical, accessible, and research-based tools (Wasburn-Moses, 2006). The findings suggest that teachers are currently searching for such resources frequently and they would absolutely utilize practical and evidence-based website resources with clear and well-written lesson plans. Therefore, these findings present an eminent opportunity for the educational research community: creating easy-to-use and highly engaging websites with practical research-based lesson plans. This study clearly demonstrates that teachers are making use of educational information presented in website format and are desperately seeking these practical websites.

Further, social networking sites should be utilized to facilitate the sharing of such resources when they are made available. Majority of the teacher candidates in the present study are already on Facebook. Thus, knowledge sharing through this medium would facilitate greater use of these websites and simultaneously reduce teacher frustrations over difficulty locating practical and evidence-based online resources.

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## **Social Media, the Courts, and the Results**

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### **Abstract**

While provincial and local school systems have far-reaching authority to regulate publicly-funded schools, the Canadian Courts have played a significant role in influencing and shaping education and policy through its rulings. This paper examines the impact of the Courts on the use of social media by examining selected landmark cases that demonstrate the Courts' pervasive influence on education policy and practice.

### **Introduction**

People are engaged in social media in unprecedented ways through using web-based and mobile technologies to communicate in interactive dialogue. These Internet-based applications are built on the foundations of Web 2.0 which permit user-generated content to be created and exchanged (Kaplan & Haenlein, 2010). And Canadians are very active users spending on average approximately 43.5 hours a month on the Web (El Akkad, 2011), twice the activity of the rest of the world.

Creating user-generated web content located in wikis, tweets, emails, Facebook, MySpace, YouTube, online publishing or discussion boards, etc., challenges users to become aware and literate in the ways that social networking platforms can affect relationships. A lack of awareness and literacy can have a detrimental impact on relationships in education settings. This paper presents some illustrations of the impact of user-generated content on relationships, highlights the findings of the Courts and/or Labour Relations Boards, and provides some recommendations in setting boundaries in using social media tools.

Almost all members of an education community engage regularly in online activity since instantaneous online communication is easy to access and create. Students' lives, however, revolve heavily around social media. Students and employees alike interact with colleagues, personal friends, and others using personal technology or technology provided by the school board. But Roher and Zavitz (in press) recognize the downside of using technology including that "third parties own the software, and often the content, the technology is public in scope and information posted can be retained or reposted for years ... even after something is taken down or erased by the user" (p. xx).

Those who write, post, or download to a personal site sometimes forget or overlook the public nature of social media. Actions such as a teacher posting student or staff pictures on his blog or a school employee using work time to respond to a personal Facebook account are activities that many employees may do at some time during a work day without causing concern to the employer. Other uses of social media cause concern either for the school board or employer. A student complains about the decisions of the school's principal (Kerr, 2007). A student sends some nude pictures of herself to her boyfriend (R. v. Cole). An employee on medical leave for severe depression posts pictures on Facebook at a birthday party, a sun vacation, and a Chippendale bar show (CBC News, 2011). A teacher downloads data from a

student's email to his hard drive (*R. v. Cole*). An employee posts questionable comments on a blog open to the public (CAW-Canada, loc. 127 and Chatham-Kent (municipality) Hereinafter Williamson). An employee posts comments about the employer including violent statements involving management figures on Facebook (*Lougheed Imports Ltd. (West Coast Mazda) v. United Food and Commercial Workers International Union, Local 1518*). An employee posts comments about the college management on a union listserv (*Camosun College and C.U.P.E., Loc. 2018 (Metcalf Grievance) Hereinafter Camosun College*). These postings or downloads often can be read by more than the intended audience since anyone with a computer could have access and entry. This access would include but not limited to clients, employers, employees, students, and the public. It is the exact nature of the postings that can have an impact on the relationship of writer and the subject discussed in the posting.

Although it may be an obvious point, the laws governing Canadian rights and freedoms, cyber-behaviour, and privacy apply to what is posted in any social media vehicle. The fundamental freedoms that exist within the Charter are subject to limitations and responsibility including that of ensuring that that right does not overstep any boundaries. Germaine, as arbitrator for *Camosun College* (1999) states that "freedom [of expression] is not unlimited; it does not entitle one to infringe upon the rights of others" (p. 9).

Similarly, federal and provincial statutes apply to employee or student use of social media in an education setting. For example, in Ontario, a principal is authorized under the *Education Act* (R.S.O. 1990) to provide for a safe school environment. A student is responsible to the principal of the school for his behaviour. A school board is equally responsible under the *Education Act* to ensure a safe learning environment for its teachers and students and to protect the privacy of its students.

In determining if the online conduct merits discipline, a series of questions need to be addressed: Is what is written or posted sufficiently connected to the business interests of the institution that these (i.e., business interests) may be at risk (*EV Logistics and Retail Wholesale Union, Loc. 580(Discharge Grievance)*)? Is there an objectively reasonable risk that damage could occur as a result of the posting? What is the identifiable risk (e.g., a risk to reputation, a risk to safety, a risk to working relationship)? These questions are beyond dislike or disagreement with what has been posted (Cabel, 2011). The cases cited below address these questions.

### **R. v. Cole**

The teacher was responsible for his school's computer network including students' emails and files on the school system. He found nude pictures that a 16 year old female sent to a male student's email account. [In Canada, it is not illegal for two teenagers under the age of 18 to carry naked photographs to one another, provided that it is for private viewing only. However, when a photograph is distributed to a person not depicted in it or part of its creation (*R. v. Sharpe*, 2001, para. 116 – 118), the act becomes child pornography. In these circumstances, the charge is against the minor who distributed the photograph and not the minor who created it.] The teacher downloaded the pictures to his password protected drive on a board-issued laptop. On noting much activity between the teacher's and male student's computers, a board technician accessed the teacher's computer to check for a virus and found the sexually explicit photos of the female student in a hidden folder. The technician provided the images on disc to the principal.

The Ontario Court of Justice ruled that the technician and principal acted reasonably since the images were in plain view during a routine maintenance check. The teacher argued that the

computer was for his exclusive use and was secured with a password, leading him to believe he had a reasonable expectation of privacy.

The school board provided the teacher's laptop for the police who copied the hard drive without obtaining a warrant. Since the computer was owned by the board, the police believed they had authority to conduct the search. The teacher was charged with possession of child pornography and unauthorized use of a computer contrary to ss. 163.1(4) and 342.1(1) of the *Criminal Code*. However, the Ontario Court of Justice ruled that the seizure of the computer without a warrant was 'egregious', therefore the evidence was excluded. On appeal, the Ontario Superior Court of Justice Kane ruled that the "subjective expectation of privacy was not objectively reasonable" (Novakowski, 2010), thus, no violation of the Charter occurred. The teacher petitioned this decision to Ontario's Court of Appeal which allowed the appeal in part. Since the ruling of the Court of Appeal, the Supreme Court of Canada has given leave to appeal with the appeal likely to be heard in the Spring of 2012 (B.W. Kwasniewski, personal communication, February 6, 2012).

### **Discussion**

The Ontario Court of Appeal determined that the teacher had a reasonable expectation of privacy regarding the contents of the laptop since teachers at that school had exclusive possession of the board-owned laptops. Teachers had access to the computers on weekends and during vacations for their use and this access also applied to the accused teacher. Computer access was password protected. Teachers used these laptops to store personal information and data in addition to their work data. The policy regarding monitoring and/or searching of teacher computers was nebulous.

The Court of Appeal found that the board's actions of searching the computer was within its area of responsibility and obligation to ensure a safe learning and teaching environment for its students. Principals are to ensure a safe school environment under the *Education Act*, s. 301 (2)(5) through the Code of Conduct ("to promote the safety of people in the schools") and *Regulation 298* s. 11 (1) ("The principal of a school, ..., is in charge of, (a) the instruction and the discipline of pupils in the school; and (b) the organization and management of the school").

### **Conclusion**

Since school boards provide laptops for teachers, they have the right to determine the terms of laptop usage. It is important for both teachers and school boards that the board has policy concerning the personal use of computer by employees. It must spell out specifically what expectations exist concerning privacy of data on computers. This policy must be communicated clearly to all employees to ensure that all understand for adherence. This policy would form the basis for future discipline if needed. (Kwasniewski, 2011).

### **United Food and Commercial Workers International Union, Local 1518 v. Lougheed Imports Ltd. (Hereinafter United Food)**

In *United Food and Commercial Workers International Union, Local 1518 v. Lougheed Imports Ltd.*, the British Columbia Labour Relations Board ruled that two employees with Facebook accounts (and many 'friends' including coworkers) had written offensive statements about the employer, homophobic comments, angry status updates, and violent statements involving management figures. Even though these comments were written off-duty, the employees were terminated for their postings on Facebook. The Labour Relations Board

determined that with the comments posted to Facebook for their many friends, there was no expectation of privacy, that the postings represented “egregious” misconduct, and thus held for the terminations. Similarly, in *Williamson*, a health sector employee was terminated for her inappropriate website postings including pictures of resident clients entrusted to her care, personal information about some of the residents without their consent, comments concerning the laziness about a colleague, and contemptuous comments about management.

### **Discussion**

Even though a writer may believe that postings to websites such as Facebook are similar to private discussions among friends, the Labour Relations Board instead determined that these postings (i.e., expressions) are of a public nature because they are on publicly accessible websites. While the comments were written ‘off-duty’, they were discriminatory and detrimental to the employer’s reputation, thus warranting dismissal.

In *Williamson*, commenting that the employer had cause for dismissal for insubordination and breach of confidentiality, the arbitrator added that employees in the health sector are held to high standards in the matter of confidentiality of personal information, similarly as educators are held to high standards.

### **Conclusion**

An employee cannot assume privacy or confidentiality when using Facebook or posting to a password-protected or private website. Arguing that one has made “a technological mistake or [is] computer illiterate is not an acceptable defence, nor will it prevent disciplinary action when warranted” (Roher & Zavitz, In press).

In a school setting, school staff members are held to high standard regarding confidentiality of personal information, especially when the information pertains to student / parent and staff information.

## **EV Logistics and Retail Wholesale Union, Loc. 580 (Discharge Grievance) Hereinafter EV Logistics**

An employee created a blog that included racist and disturbing comments. While the activity occurred off-duty and the posted comments were not workplace-based, the employer was concerned that these comments could have a negative impact on this multi-cultural workplace environment. The employer became aware of the blog from a co-worker of the employee. The company was also attacked with racist vandalism and graffiti, reinforcing the employer’s view that these types of comments threatened the workplace environment (Roher & Zavitz, In press). The arbitrator agreed that the blog was sufficiently serious and connected to the workplace that it warranted discipline.

### **Discussion**

The case involving a teacher, *Ross v. New Brunswick District No. 15*, (hereinafter *Ross*) argued circumstances similar to *EV Logistics*. A classroom teacher, was ordered to be removed from his teaching duties because of his anti-Semitic views. The teacher argued that since he did not present his views in class, his views and writings “were well-publicized in the community” (Green & Correia, 1994, p. 362). The teacher argued for section 2 of the Charter, “freedom of expression”. The Board of Inquiry found that the school board contributed to the “poisoned environment”

especially for Jewish students by failing to respond to the teacher's actions. This failure hindered student learning and other educational services that the board was required to provide.

In its finding that Ross could be dismissed from his position as a teacher, the Supreme Court outlined the relationship between the school and society and defined the role of the school.

A school is a communication centre for a whole range of values and aspirations of society. In large part, it defines the values transcend society through the educational medium. The school is an arena of for the exchange of ideas and must, therefore, be premised upon principles of tolerance and impartiality so that all persons within the school environment feel equally free to participate (*Ross*, para. 42).

It further delineated the important role that teachers occupy:

Teachers are inextricably linked to the integrity of the school system. Teachers occupy positions of trust and confidence, and exert considerable influence over their students as a result of their positions. The conduct of a teacher bears directly upon the community's perception of the ability of the teacher to fulfil such a position of trust and influence, and upon the community's confidence in the public school system as a whole (*Ross*, para. 43).

### **Conclusion**

In applying the *Oakes (R. v. Oakes, 1986)* test, the Court found that limiting the teacher's freedom of religion and expression, as the teacher claimed that occurred, was justified. The objective is sufficiently important since eliminating discrimination supported one of Canada's goals to prohibit disseminating ideas "based on racial or religious superiority" (Watkinson, 1999, p. 50). To dismiss the teacher was reasonable and demonstrably justified since allowing him to carry on teaching would permit him to continue influencing children. His dismissal as a teacher ensures that he had no more influence upon his students and that "educational services are discrimination free" (Watkinson, 1999, p. 51). The Court determined that limiting his freedom was necessary to achieve an environment free of discrimination, thus showing that "proportionality between the effects of the order and the objective" (Watkinson, 1999, p. 52) existed. Through their conduct, "teachers must be perceived to uphold the values, beliefs and knowledge sought to be transmitted by the school system" (Roher & Zavitz, In press).

### **Ottawa-Carleton District School Board v. Scharf (Hereinafter Scharf)**

In a news release posted to a website, a parent alleged (among other assertions) that the principal was subject to "... a 45 day incarceration for contempt of court" ... "for refusing to a French Immersion Elementary School placement with supports and services" ... (*Scharf*, para. 9). He further alleged that the placement was unsafe for the student, and that the principal was "... under investigation for criminal conduct by the Ottawa Police..." (*Scharf*, para 9). The news release was circulated to the School Board trustees, the school principals, and members of both parliament and the provincial legislature. The Court concluded that:

It would appear on the evidence that the intention of issuing the "News Release" was for the purpose of intimidating the plaintiffs [principal and supervisory officer] into complying with the demand of [the defendants] that [the student's] placement in the French Immersion program be maintained (*Scharf*, para. 9).

The Court systematically dismissed each allegation by determining that it did not exist, did not occur, or was unverified after investigation. With regard to the defamatory statements, the Court stated: “On all the evidence, I am satisfied that the ... statements contained in the ‘News Release’ under consideration ... are false and clearly defamatory of both the plaintiffs” (Scharf, para. 18). The Court awarded general damages to each plaintiff in the amount of \$15,000. The Court further ordered that the material be removed from the Internet and granted both plaintiffs “an interim and permanent injunction preventing the defendants from republishing defamatory statements about the plaintiffs. The Court also directed that a public retraction as well as a public apology be made by the defendants for publication in local newspapers” (Flynn, 2007, p. 3) no later than 60 days after the judgment.

### **Discussion**

This case supports the idea that the Court will support educators who turn to it for redress when defamatory and false statements are posted about them on the Internet. The Court using the [Ontario] *Libel and Slander Act* stated that the Act “provides that a fair and accurate report without comment in a newspaper or a broadcast is absolutely privileged” (Scharf, para. 24 – 26). Since no newspaper or broadcast was evident, it confirmed that the public media did not support the items in the news release.

The Court supported the plaintiffs recognizing them as professionals and noting their “exemplary reputations in the profession of teaching. Their professional reputations have been attacked and the attacks have gone to the core of their professional reputations. The defendants used the internet to launch those attacks, and it is acknowledged that there is an increased potential for harm when the publication is by way of internet” (Scharf, para. 28).

### **Conclusion**

The Courts will not permit posting false allegations. The Court demanded retractions from the defendants showing some concern for educators when confronted with unwarranted attacks. The ruling serves as advice to those posting to the Internet to ensure that accuracy is evident in the writings. The Courts are attentive to the potential harm that may occur with defamatory postings to the Internet.

Student use of technology, whether in emails, on Facebook or on blogs, etc. has not gone unnoticed by the courts or by school board authorities.

### **R.T. v. Durham Catholic District School Board (Hereinafter R.T.)**

A Grade 8 student used Facebook to send email message, impersonate some of the students and make death threats. The target student described how she was affected by the threatening emails with trouble sleeping, feeling isolated and afraid for herself and her family. She was closing the blinds at home and she was always watching over her shoulder. Additionally, there was evidence that her sister, a student at the school, felt the negative impact of the threats.

### **Discussion**

The school board considered the impact that these actions had on school climate. It further examined the mitigating factors and the additional factors listed *Regulation 472/07 s. 2* (student’s inability to control behaviour, inability to understand the foreseeable consequences of behaviour, or presence in the school does not create an unacceptable risk to the safety of any

person) and s. 3 (student's history, use of progressive discipline, harassment of the said student due to race, ethnic origin, religion, disability, gender or sexual orientation or to any other harassment, effect of expulsion on student's ongoing education, student's age, or development of student's individual education plan (with three conditions)). By considering each factor individually, the board determines if and to what degree, the factor has been addressed. This ensures that the student's wellbeing is appropriately addressed.

### **Conclusion**

Although the infraction did not occur at the school or any school related activity, it would have a negative impact on the school climate. This situation made the board decision distinct. In reviewing the mitigating and other factors, the board determined that there was no evidence to suggest that the student was unable to control her behaviour or understand the foreseeable consequences of her behaviour. The fear of serious harm that the Facebook communication had generated and knowing that one of its students at the same school as the target attended led to board to determine that a negative school climate would exist (and continue to exist). The school board determined that expulsion was appropriate.

### **Postings from Students at Three Secondary Schools**

Not all inappropriate student postings in social media situations result in expulsion.

A 19 year old student was suspended for two days for posting that she created on Facebook in which she accused schools of abandoning Christmas and the singing of the national anthem. The comments then continued and included disparaging comments about minority students on her Facebook page (Schmidt, 2011). She believed that she was unfairly suspended for stating her beliefs. The school learned of the Facebook comments from someone who was "friended". In 2007, Kerr reported on a group of grade 11 and 12 students were not happy with a school board's policy banning electronic personal support devices including pagers, cell phones, MP3 players, and blackberries. Initially the postings on Facebook dealt with the unfairness of the board's policy but then attacked the high school principal with profanity, sexually explicit, vulgar, demeaning and untrue statements since he was enforcing the policy. The postings damaged the reputation of the principal who was an educator of thirty years at that time. The nineteen involved students were suspended for three to eight days depending on their role in the attacks.

In May 2011, at the entrance to a school's parking lot, some students witnessed an attack by two female students on another female student in which the attacked student was kicked on the side of her face and received blows to other parts of her body. Two male students egged on the girls and could be heard laughing. One student came to the attacked student's defence but she was soon thwarted by another student from the crowd that gathered to watch. One male student videoed the fight on his cell phone and uploaded the attack to YouTube. In all six students, aged 15 to 17, were charged under the Criminal Code with at least one charge each, including the person filming the attack. These charges include assault, counseling an indictable offence and causing a disturbance. At the request of the authorities, the video was taken down (Boesveld, 2011).

### **Discussion**

In first two situations, the students claimed that their attacks were against policies that they believed unfair. After the initial postings, the comments developed further to be seen as "hate"

messages and potentially libelous. One student questioned where the school's jurisdiction ended, that posting at home on personally owned equipment was acceptable. From the students' perspectives, they believe that they have a right to freedom of expression, with some citing the Canadian Charter of Rights and Freedoms as their authority. The concept of limitations on one's freedoms did not appear to be understood by these students. Many believe that their Facebook pages are private sites, with messages not read by others because the site is not accessible by others. In the third instance, the posting was uploaded to YouTube. There is no expectation of privacy once a file is on YouTube since no password is required to access any posting. The student attackers and onlookers were not concerned about any consequences that they may face after the attack on the student.

### **Conclusion**

In the first instance, the school board took the position that "any actions by pupils, including 'inappropriate' Facebook posts, that are deemed to negatively affect "the moral tone of a school" can, under Ontario's Safe School Act, be dealt with by a suspension" (Schmidt, 2011). In the second instance, after posting sexually explicit, derogatory and demeaning remarks about their principal, the school board took the position that the students' actions violated the school board's code of conduct, which states, in part, that "using computer technology to communicate inappropriate, demeaning, harassing or threatening messages shall be subject to disciplinary action. Police may be contacted." (Toronto Star, 2007, para. 3). While the comments were made off school site and on students' own time, the comments had a great impact in the classroom and on the learning environment. If an ordinary person is likely to believe the online comments made about the administration as cited in the first two cases, this constitutes unfair comments, likely to ruin one's reputation. Justice Cory stated, "A good reputation is closely related to the innate worthiness and dignity of the individual" (*Hill v. Church of Scientology of Toronto*, 1995). Therefore, one's reputation must be protected by law since a tarnished reputation seldom regains its former shine. Within a school setting, negative comments may undermine authority and interfere with the educational environment. School personnel need to be free from attack, and, where attacks occur, students must be held responsible. In the third case of posting the beating of a student on YouTube, the students were held responsible with charges laid. Since the Youth Criminal Justice Act applies to these students, the results of the laying of charges was not made public. However, under the Youth Criminal Justice Act the sanctions may range from reprimand to custody depending on the charge. In the most serious cases, a youth may be sentenced as an adult (Wickens, 2011).

### **Conclusion**

While not all the above-cited cases are directly from education settings, they are illustrative for those in education who use web-based applications whether blogging, websites, email and networking sites such as Facebook, YouTube, Twitter, etc. Many school board employees create and/or participate in these applications and school boards respect the legal rights of their employees to participate in these activities. What employees do on their own time is their concern. If the activities outside of work negatively affect their job performance, the performance of others and/or the rights and privacy of others, the school board is rightfully involved in the affair of the employee (Roher, 2010).

While freedom of expression must be allowed by the employer or the school, statements that are defamatory, deliberately false, or racist cannot be tolerated.

School board employees are urged to act responsibly with respect to networking and social web-based applications. Public postings should not reveal personal / confidential information about the school, students, staff, parents or other members of the school board. In posting to social networking sites, privacy settings for content and photos need to apply at a level that ensures a high level of security. Teachers, if needed, could set up two accounts: one for students and academics and one private and personal for the teacher. Students have access to the academic page and not friended on the private and personal one.

Similarly, students must act responsibly with respect to networking and social web-based applications. The legal rights of teachers, principals, students and parent require understanding. Responsible school policies respecting individuals' right to freedom of expression and respecting the rights of others are required. Students and others must know of and understand the serious consequences of inappropriate use of social media tools and the potential impact on victims, families, friends, and schools. Quick and consistent school response to inappropriate use of social media is required while realizing that each case is unique. Although there are no simple solutions to resolve breakdown in communication, peer mediation, healing circles, restorative approaches, and conflict resolution techniques may begin to rectify this breakdown.

Marshall McLuhan's essential message regarding understanding the new media as he described it applies equally as well today as it did in his days at the University of Toronto: "In the electronic age of instantaneous communication ... our survival, and at the very least our comfort and happiness, is predicated on understanding the nature of our new environment. If we understand the revolutionary transformations caused by new media, we can anticipate and control them; but if we continue in our self-induced ... trance, we will be their slaves." (Scott, 2011, p. 31). Achieving responsible involvement and participation with respect to networking and social-based applications requires individuals who understand the impact of social media as McLuhan believed. Policy statements must direct and unambiguous. Once the messages are in cyberspace, an indefinite audience has access to the messages indefinitely. With the 800 million users that Facebook currently boasts, the potential audience of a posting is much larger than most writers would desire. The issue requires significant management by teachers, administrators and school boards with the results that the courts are not included.

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## **Participatory Social Construction: The Student Usage of Facebook in Post-Secondary Education**

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### **Abstract**

Despite the global popularity of social networking sites (SNS), relatively little scholarly research has explored the ways in which post-secondary students in a Canadian community college setting use SNS. This study explores students' uses and opinions of Facebook for academic and social purposes through the combined frameworks of participatory culture and social constructionism. In this qualitative case study, a questionnaire survey was conducted with 38 students enrolled in a community college course in the Greater Toronto Area. Themed and pattern analysis of data show that the majority of participants prefer not to use Facebook for formal academic purposes but express a satisfaction with the site for informal learning, social, and personal purposes. Student concerns and issues regarding the usage of Facebook, implications for educational practice, limitations of this study, and suggestions for further research are also discussed. This summary of ongoing research, which stems out of a larger Masters study, explores the theme of social media and post-secondary student engagement.

### **Introduction**

Educators and commentators have been enthusiastic about exploring and exploiting the potential of social networking site (SNS)'s "interactive qualities for supporting and enhancing collaborative and engaged learning" (Goodband, Solomon, Samuels, Lawson & Bhakta, 2011, p. 1). With Facebook's (FB) global popularity; unique platform; built-in functions; and conversational, collaborative, and communal qualities, the SNS can be leveraged in an academic setting and offer pedagogical, social, and technological affordances. According to Lempe, Ellison, and Steinfield (2006, as cited in Kabilan, Ahmad & Abidin, 2010), "an increasing number of university students have turned into avid users of FB, who login frequently" (p. 179) and that, because Facebook originated as a college site, it has attracted many college-age students (Pempek, Yermolayeva & Calvert, 2009). However, relatively little scholarly research has explored how much, why, and in what ways post-secondary students in a Canadian community college setting use FB. Using the combined theoretical frameworks of Idit Harel & Seymour Papert's (1991) social constructionism and Henry Jenkins' (2009) participatory cultures, this study attempts to answer the following research questions:

- a) What are post-secondary students' general practices on or uses of Facebook?
- b) What potential convergences do post-secondary students see between Facebook, as well as other social network sites (e.g., Twitter, YouTube) and academia? How do students integrate Facebook into their academic lives?
- c) What are the post-secondary students' concerns with the usage of Facebook, particularly for educational purposes?

The student perspective can uncover some of the issues related to SNS usage in academia. This summary of ongoing research, stemming out of a larger Masters study, explores the theme of social media and post-secondary student engagement.

## **Literature Review**

Research on FB's acceptance and use in education in general (Roblyer, McDaniel, Webb, Herman, & Witty, 2010) and FB usage by students in post-secondary education (PSE) institutions are relatively scant. However, the Social Media and Education field is seeing a growing body of literature in recent years, expanding on student-centered social media research. Empirical evidence of Facebook's use in the classroom - by teachers as well as students - is scarce (Bowers-Campbell, 2008; Roblyer et al., 2010); however, this is understandable given that Facebook is a new development - less than a decade old. Regarding the student perspective and usage, several studies focused on how Facebook was introduced into an academic environment and the ways in which students leveraged and behaved on the website (Charlton, Devlin & Drummond, 2009; Hanson, Drumheller, Mallard, McKee & Schlegel, 2011; Madge, Meek, Wellens & Hooley, 2009; Pempek et al., 2009; Roblyer et al., 2010; Selwyn, 2009).

There is much tension in the literature regarding the usage of Facebook for academic purposes. Some studies report that students, faculty, and staff are hesitant to use the SNS for academic work (e.g., Madge et al., 2009) and that it is not widely accepted in the academic realm despite ubiquitous use among college students (Bowers-Campbell, 2008), while others report that university students are very open to the possibility of using Facebook and similar technologies to support classroom work (e.g., Roblyer et al., 2010). Some studies focused on the successful integrations of Facebook into the classroom, often as a learning management system (LMS) (e.g., Backer, 2010; Baran, 2010; Kabilan et al., 2010; Wang et al., 2011), while others focused on the successful implications on Facebook regarding the social aspect of academia and the social well-being of students (e.g., Heiberger & Harper, 2008; Mazer, Murphy, & Simonds, 2009) and the social quality of campus life (Eberhardt, 2007). Some also focus on both the social and academic benefits that Facebook can offer, particularly the potential classroom uses of Facebook as a tool for improving academic motivation (e.g., Bowers-Campbell, 2008). Other studies found that Facebook was not a tool for academic work (e.g., Madge et al., 2009) and that it was a social technology rather than a formal teaching tool (Selwyn, 2009; Greenhow & Robellia, 2009; Usluel & Mazman, 2009). In the literature, "there is a tension between not wanting to experiment with students, yet wanting to exploit new and highly flexible ways of making education easier, more flexible, and ultimately more valuable to learners of all ages and all walks of life" (Mason & Rennie, 2008, p. vii). Thus, during the study, the use of SNS "continues to be a controversial element of the digital education landscape" (Selwyn, 2009, p. 158).

## **Theoretical Framework**

The combined frameworks of Henry Jenkins' (2009) participatory cultures and Harel & Papert's (1991) social constructionism were used for this study. A "participatory culture" is a culture with:

- a) relatively low barriers for artistic expression and engagement
- b) strong support for creating and disseminating one's creations with others
- c) an informal mentorship, whereby the more experienced scaffolds the learning of novices and/or passes information along to novices
- d) members who believe their contributions have value
- e) members who feel some degree of social connection and affiliation with one another
- f) members who value others' opinions of themselves and their work and

g) members who believe that they are free to contribute when desired; however, they are not forced to contribute (adapted from Jenkins, Clinton, Purushotma, Robison & Weigel, 2009). Participatory cultures come in various forms, including affiliations, expressions, collaborative problem-solving, and circulations (Jenkins et al., 2009). The collaborative, peer-to-peer, collective, and global nature of SNS, especially Facebook, are precisely the platforms by which these participatory cultures can emerge from, grow, and be continually cultivated. As active participants, users are consumers, producers, and creators of content. The study explores the participatory cultures in which students are a part of or cultivate with one another within the FB space for academic and social purposes.

The second theoretical framework is Idit Harel and Seymour Papert's social constructionism (Harel & Papert, 1991), a constructivist learning theory and theory of instruction. It adds to social constructivism theory (Vygotsky, 1978) the idea of a consciously-engaged learner in the context of the construction of a public entity or a public persona; learners are not just "learning by doing," or are just simply being "scaffolded" by "experts," but are engaging reflexively by analyzing, critiquing, and evaluating their own work and socially by sharing their artifacts with others while in the process of creating and producing them (Shaw, 1995). The learner is repositioned as an active agent in the learning (Morbey, 2011), creating, and producing process while constructing knowledge with others; they have conscious, often informed, decisions on how to proceed, how to share, and what information to disseminate. A reality does not exist independently of a user (Boghossian, 2001); the user will have a hand in shaping the reality.

Jenkins et al. see users in these participatory cultures as active social agents; they construct their social realities, enact new media literacies while consciously engaging in civic and communal discourse, and practice self-expression and self-representation. Thus, participatory cultures cannot exist and be shaped without conscious input from users. The theories were connected to the ways in which students are using and participating in Facebook, the decisions that they make in using diverse technologies for various academic and social purposes, and their perceived uses and opinions of such technologies in an academic setting.

### **Why Facebook?**

Facebook is currently considered the most popular and one of the most successful forms of online social networking (Kabilan et al., 2010). The researcher hypothesized that its immense popularity; intuitive interface; relative ease of use (Mason & Rennie, 2009; McCarthy, 2010); reliable server (i.e., the website rarely shuts down); and plethora of functions, applications, and Internet-based communication tools that are synthesized in one website ensured that a large number of participants would already be familiar with its existence, layout, and subsequent operations and applications.

### **The Case Study**

The research was conducted in a Canadian, Greater Toronto Area context, where Facebook is steadily proliferating within post-secondary environments and is being leveraged by PSE institutions. The particular community college (henceforth referred to as "The College") in which the participants were studying leverages various SNS, including Facebook. The short-term qualitative case study focuses on students' general practices with or uses of FB and their views on leveraging FB for academic and social purposes.

## Methodology

### Method

From an interpretivist paradigm/approach, this “within-site study” (Creswell, 2007) was an instrumental case study, whereby a particular case was studied in order to highlight what can be learned from a single case and “provide insight into an issue or redraw a generalization” (Stake, 2010, p. 437) about “cultural patterns of thought and action” (Glesne, 2011, p. 8) for that group. The analysis was descriptive and holistic (Yin, 2003, as cited in Creswell, 2007), focusing on a) the exploration and description of the participant pool b) seeking patterns and pluralism, and c) corroborating findings with current literature. From an inductive, naturalistic research approach, the findings may result in general, beginning hypotheses and theory; be instructive; and provide a basis for comparison with similar situations. What was important to discover is how participants interpret and make meaning of the same activity or phenomenon and to contextualize, understand, and interpret the findings. As a qualitative study, focus was on conceptual or phenomenological significance rather than statistical significance.

### Procedures

May 2011 - August 2011 was a period of secondary source collection. Academic databases and general Internet sources were used to find literature focusing on student FB usage and FB’s usage for teaching and learning at the post-secondary level. Journals including *The Journal of Learning and Media*; *Learning, Media and Technology*; *British Journal of Educational Technology*; *The Internet and Higher Education*; and other academic books, newspaper articles, and media sources, provided current information. Ethics approval from the researcher’s affiliated university and The College were obtained prior to study commencement. Primary data collection took place during the Fall 2011 semester. The researcher is involved with The College as part of her professional career but was not the instructor of the surveyed participant pool.

### Recruitment of Participants

The researcher contacted course directors in September 2011 and canvassed for an appropriate class to survey. Focus was placed on individuals willing to participate; the class was selected based on the researcher’s access to students. The aim was a convenient sample size (Oppenheim, 2000) of approximately 15-30 students currently enrolled in a Canadian post-secondary education (PSE) course in a Southern Ontario community college. Participation was voluntary and not graded.

### Data Collection and Data Analysis Procedures

Research methods included collecting and analyzing documents (Foddy, 1994; Oppenheim, 2000) and interacting with participants in their social contexts. Data collection primarily consisted of the participant completion of an in-depth, exploratory questionnaire.

After the study description and informed consent form signing, the questionnaire was administered in person during Week 5 of the Fall 2011 semester on Tuesday, October 4, 2011 from 12:15 p.m. to approximately 12:45 p.m. 38 participants completed the hand-written questionnaire and required 20 to 30 minutes. Follow-up questions were asked two weeks after this date in person and through e-mail. The researcher took hand-written notes during the field observation (Patton, 2001); the notes were transcribed into a word processing program (Microsoft Word 2007) and included in the analysis.

On Microsoft Word 2007, questionnaire data were gathered and organized according to the order of questions on the questionnaires. Data were “open coded” to produce an initial code list of major themes and patterns, where the codes were researcher-led and analytic (Strauss, 1987, as cited in Selwyn, 2009, p. 160). Major themes and patterns were grouped with representative participant quotes and further organized in order of the research questions (Selwyn, 2009). Patterns and anomalies were sought, annotated, and discussed; findings were compared and contrasted to literature. The “lessons learned” (Lincoln & Guba, 1985) from the case - the final interpretive phase - the researcher reported the meaning and significance (Creswell, 2007) of the case and how it can be applied to other cases.

When data required elaboration and to establish validity, follow-up questions were sought in person and through e-mail, employing member check (Lincoln & Guba, 1985). This measure was part of the triangulation process whereby the researcher confirmed the accuracy or assessed the validity of answers. Peer review (i.e. supervisor input) was also used as another form of validation (Creswell, 2007).

### **Questionnaire**

The main instrument was a two-page, two-section questionnaire. Section A solicited personal, demographic, and academic information. Section B included short-answer questions probing opinions about SNS usage in post-secondary education settings and generally assessed how students perceived the website to be useful or not useful in academic settings; three multiple-choice questions; and a question with a five-point Likert-type scale ranging from “strongly agree” to “strongly disagree.” An open-ended item was also included in the short answer questions to describe and explain the quantitative data. Questions were based on the researcher’s investigative purposes and on literature sourced from Backer, 2010; Baran, 2010; Bowers-Campbell, 2008; Ellison, Steinfield, & Lampe, 2007; Pempek et al., 2009; Quan-Haase & Young, 2010; and Selwyn, 2009 that examined student practices and FB. A section for “Other Comments” was also provided.

## **Summary of Major Findings**

### **Section A**

The questionnaire was administered to 39 full-time post-secondary students enrolled in The College in a Semester 1 Ontario Community College level course in a school of Hospitality, Tourism, and Culture.

- 38/39 surveys completed. Response rate = 97%.

#### **Participant Characteristics**

- 17 (45%) males and 21 (55%) females.
- 27 (71%) aged 18-24; 5 (13%) aged 25-29; 4 (11%) aged 40 years or above; and 2 (5%) chose not to reveal there are. All participants were over 18.
- Completing several programs in the School of Hospitality, Tourism, and Culture.

### **Section B**

Part A: What are the students’ general practices or uses of Facebook?

- 36 (95%) familiar with Facebook; 2 (5%) were not.
- 29 (76%) had active Facebook accounts. This is lower than Ellison et al.’s (2007) findings of 90% and Mastrodicasa and Kepic’s (2005) (as cited in Junco & Cole-Avent (2008)) finding of 85.5% but higher than Junco and Mastrodicasa’s (2007) finding of 65%.

- Several reasons for not having active FB accounts include: a) account was hacked; b) willing deactivation “because it was like an obsession”; c) participant was an international student and new to the country; d) pressure from significant other not to create an account; and e) participant is not familiar with FB.
- Time (participants with accounts) spent on FB per day varied: 11 (29%) spent 0-30 minutes; 9 (24%) spent 31-60 minutes; 2 (5%) spent 1-2 hours; and 7 (18%) spent more than 2 hours. 9 (24%) did not spend time on FB because they did not have accounts. Compared to Ellison et al. (2007)’s findings (10-30 min/day) and Pempek et al. (2009)’s findings (30 min/day), these students were heavier users of the website.
- Why participants activated a FB account included: contacting other users, networking and finding information, self-presentation and sharing, peer pressure and influence, academic purposes, and leisure. Academic use of FB was not a prime motivation for joining FB. Most students chose to create accounts and were motivated to do so a) knowing that offline friends and family were already active on the website, and b) already aware of the site’s functions. Thus, students enacted the choice to activate (and deactivate) their accounts.
- “Keep in touch with friends” was the most popular use (or possible use) of FB, being chosen 30 times (79%). “Academic work/school” was only chosen 4 (11%) times, the lowest out of all the choices. This suggests that the majority of students would not use Facebook for academic work/school purposes by choice. This corroborates with Madge et al.’s (2009) findings that students are more open to the social, informal uses of Facebook rather than the formal, academic uses.
- No participant has used FB formally in a course (i.e., graded for using FB).
- 19 (50%) agreed that they were more interested in the survey/participating in the study because it was about Facebook and social media sites. 17 (45%) had no opinion, 1 (3%) disagreed, and 1 (3%) strongly disagreed. Students seem to have a strong interest in social media and would most likely be open to social media research.
- Specific Facebook functions that students utilize include:
  - a) Wall posts
  - b) Messaging
  - c) Chat
  - d) Group, and
  - e) Events.

Part B: What are the potential convergences do students see between Facebook, as well as other social network sites (i.e. Twitter, YouTube) and academia? How do students integrate Facebook into their academic lives and what benefits do they see with such integration?

- 21 (55.3%) contact classmates and/or school acquaintances and 15 (39.5%) do not. (2 (5.2%) left the question blank). Even though 4 chose “academic work/school purposes” as one of their main uses of FB, the majority still seem to contact classmates and other students for other purposes that are not necessarily connected with formal coursework. Thus, even though academic work/school is not one of the main uses of Facebook by this particular group of students, they are still fairly open to using Facebook to contact their classmates through the website. Similar to the findings by Bowers-Campbell (2008), Eberhardt (2007), Ellison et al. (2007), Heiberger & Harper (2008), and Madge et al. (2009), FB can support students’ “social well being,” their integration into campus life, and the “social capital” of the institution.

- 16 (42.1%) thought FB was not beneficial to use in classroom settings or for other educational purposes. 10 (26.3%) answered “yes”; 7 (18.4%) answered N/A or left the question blank, and 5 (13.2%) were unsure or held a middle ground. For those who answered “yes,” the themes of the reasons given included: academic use and educational benefits, popularity, convenience, and depends on usage.
- 16 (42.1%) would not like it if their classes had FB as a course component. 13 (34.1%) said “yes”; 7 (18.5%) said “N/A” or left the question blank; and 2 (5.3%) were in the middle. For those who answered “yes,” the themes of the reasons given included: convenience in academic setting, coolness, to try something new, and perception of value.
- Ways that students currently integrate Facebook into their academic lives include: academic assistance (e.g., “for help on assignments.”), academic discussion (e.g., “to discuss studies, homework, assignments.”), and collaboration (e.g., “group work. messaging to talk with one member of a group...”).
- Reasons why FB was not being utilized by students in an academic setting include: amount of classmate contact (e.g., “We see classmates often anyway, about ten times a week.”), technological and contact preferences (e.g., “I prefer text or phone calls.”, “I prefer face-to-face talk.”), individual Facebook use (e.g., “I barely use Facebook.”), and perceived ideas about Facebook and technology (e.g., “Facebook...is to be fun and to not talk about assignments.”).
- When asked which other social media sites would be useful for educational purposes, the most popular answer was YouTube, with 15 (39%) students suggesting it (e.g., “YouTube would be useful in class to watch educational videos.”).
- 21 (55%) would rather not use FB than a college-mandated LMS.
- 6 (16%) would rather use FB for class purposes, including the themes of participatory cultures in academia, technological convergence, technological literacy, popularity (e.g., “...everyone already has it.”), and obligation.

Part C: What are the students’ concerns with the usage of Facebook, particularly for educational purposes?

Several concerns, constraints, and issues with the usage of FB for educational purposes included:

- Academic sphere vs. social sphere (e.g., separation of work and play)
- Academic issues (e.g., students cheating)
- Amount of classmate contact offline
- Concerns about the FB website itself (e.g., security and privacy)
- Facebook as a distraction and other negative effects (e.g., lack of motivation)
- Fragmentation of education and information (e.g., as a result of using multiple technologies)
- Misuse of FB (either in class or outside of class)
- No perceived need (i.e., The College already has a school-mandated LMS)
- Privacy
- Public space vs. private space
- Risk involved
- Technological usage and preference – learning management system over social networking sites

- Technological usage, preference, and familiarity (i.e., other communication methods may be preferred, such as face-to-face)
- Technology issues (e.g., availability of and access to technology)
- Technological literacy (i.e., unfamiliar with FB or computer functions)
- Varying usage of FB (i.e., some use it more than others; can be used positively or negatively).

### **Analysis and Discussion**

There were mixed opinions about the integration of Facebook into academia. The majority prefers and chooses not to use FB for formal academic purposes and believe that FB is not a tool for formal courses but is a social technology; this conclusion supports the finding of Baran, 2010 and Selwyn, 2009. FB was used in an academic setting mostly for informal contact with classmates and school acquaintances (e.g., clarifying information, asking about missed information, etc.); thus, informal usage was more prevalent than formal usage in an academic setting. Students still delineate and were aware of differences between “social” and “academic” usage of Facebook.

Access to computer technologies and the Internet were not issues; thus, students had a choice about what technologies to use and in what participatory cultures to partake. Communal networks on FB can support student participatory cultures who socially construct these online spaces. The majority of students “will invest time and energy in building relationships around shared interests and knowledge communities” (Maloney, 2007, p. 158) with friends, family, and classmates/school acquaintances. Students are quite open and enthusiastic about the use of Facebook for informal, non-formal, and social purposes, showing that their links to the participatory cultures on Facebook are strong.

Students construct their own social, participatory spaces on Facebook while being conscious and aware of the technology’s uses and consequences. Some strongly question the inherent values, biases, and ultimate purposes of FB: “...Facebook is monitored by the governments of North America and school. I also do not like the fact that everything you post becomes Facebook’s property.” “Facebook as a distraction” was the heaviest theme from the data, suggesting that, even if Facebook is formally integrated into education, students are still aware of temptations to deviate from academic work. Generally, these adults have a good understanding of the non-neutrality of technology (Buckingham, 2008; Lankshear & Knobel, 2008) and are aware of the implications of and are literate in FB use.

Students were reflexive regarding self-identity and the perception of online and offline identities by the self and others (e.g., “I wouldn’t be concerned about showing my teachers my Facebook but it’s weird when your teachers or co-workers know too much about your personal life.”) while being active agents in the construction of their online FB cultures. Some students connected and were aware of the connection between their online and offline identity (cf. Charlton et al., 2009; Ellison et al., 2007), describing a) the repercussions of online activity offline (i.e., their instructor being privy to what they post online) and b) how offline relationships may not necessarily be replicated online (i.e., students are not “Friends” with classmates on Facebook). Furthermore, some participants preferred that the public sphere and the private sphere are separate; they were wary of FB’s public nature and were more “trusting” of school-mandated LMS. As with university administrators, professors, and researchers (Morbey, 2011), students are hesitant to push the boundaries of Facebook use within an academic setting.

Although there is a separation of academic and social, as well as the public and private, there is an amalgam of online and offline identities.

Findings also support the perspective that websites not only have different uses, but different participatory cultures and communities within them; some can be perceived as “commercial,” “social,” or “academic”. This might pose a challenge to media convergence within the educational/academic realm, particularly when students and other users are cognizant of the technology’s “main” usage. It seems as though the college student participatory cultures on FB retain their exclusivity and a) do not always welcome instructor or institution contact and b) differentiate between formal and social practices between users.

However, the findings were not unanimous. There are a number of students who believe that FB’s functions can be integrated into the classroom. With regard to student engagement, participation, and agency in their own learning, coupled with the environment available for student-centered and collaborative learning, FB’s educative and community-creating possibilities should not be discounted entirely. On FB, perhaps the students are participating in more social participatory cultures than academic participatory cultures.

### **Limitations**

The sample size was relatively small; patterns may not necessarily be applicable to all college-level students, particularly those from different disciplines. Specific idiosyncrasies of individual FB use were not always elaborated upon. Findings may differ when the study is applied to a group with fewer computer resources. Lastly, as Facebook continues to be updated, there may be changes with student usage of the site; thus, the study is bound by a specific timeline in FB’s existence.

### **Significance**

The study aimed to provide more and current research on community college student usage and opinions of FB and SNS in academia in a Canadian post-secondary setting. With the topic’s relevancy in PSE today, the study can be applied to and have implications on other PSE institutions worldwide; it can contribute to the:

- a) improvement of pedagogical practices, both online and offline (i.e., generating more avenues for communication)
- b) restructuring of pedagogical practices in order to integrate specific SNS and Web 2.0 functions and applications (i.e. effectively manage and apply SNS technologies)
- c) modifications in school-mandated LMS, and
- d) development of new and further policies, procedures, and training with regard to SNS usage.

Educational practitioners and professionals should understand the reasons why students are using technology in addition to how they are using technology, especially when integrating technologies into the classroom. In learning from the student perspective, institutions can extrapolate how to effectively adapt successful SNS practices to fulfill their own functions, missions, and goals while keeping in mind the students’ needs, wants, and overall practices of SNS usage. If social media is more than a trend, and if its educational applications will continue to grow, then it is important to research, discuss, analyze, and evaluate its uses in order to facilitate continuous improvement and advantageous uses in educational settings.

## Suggestions for Further Research

The study can be a foundation of research for more current, specific, extensive, and comparative studies conducted on how post-secondary students use SNS in PSE settings. Future researchers can conduct the same survey on a greater sample size of students, perhaps in different disciplines, and focus on the implementation of FB as a learning management system in a formal course. Other research can include conducting the study from the instructor perspective (cf. McCarthy, 2010); improving current educational technology to incorporate more “sociable” applications and interfaces; teacher-student interactions on SNS; comparative studies on discipline-specific use of SNS; and the comparisons, hybridity, and convergence of SNS and LMS.

## Conclusions

Through the combined frameworks of social constructionism and participatory cultures, this study explored PSE students’ general FB practices, convergences they saw between FB and other SNS and academia, how they integrated FB into their lives, and their concerns about FB usage for educational purposes.

- Students use Facebook as a platform to create a public entity or persona and consume and produce information while actively engaged in and conscious about the activities (and possible consequences) on the website. By choosing what to share, who to interact with, and how to interact, students construct their own realities on Facebook.
- Tensions remain between academic and social usage of FB. The majority of participants prefer not to use Facebook for formal academic purposes but express a satisfaction with the site for informal learning, social, and personal purposes; FB is generally used to ask about missed work and to socialize rather than complete formal coursework.
- If the school-mandated LMS is preferred, the educational challenge is to create and cultivate the participatory cultures that students can socially construct within school-mandated LMS.
- Along with pedagogy, student disciplines, technological preferences and usage, and technological literacies should be considered when integrating new technologies.
- Given the mixed findings, FB’s function of adaptation rather than adoption may be more beneficial. This calls for a (re)evaluation of school-mandated LMS and their possible redesign to incorporate more “sociable” aspects.
- “Technology” does not necessarily equate to “educational technology” or more properly, comprehensive utility; knowledge of technologies, their creative repurposing, and a critical understanding of how such technologies can impact users are crucial. A social media strategy and continuous SNS education and training amongst the institution’s community members should be cultivated. Understanding the weaknesses of popular SNS in formal education can lead to the strengthening of existing educational technologies.

What is important to consider is how effective social media integration may really be and if the target audience is being reached. If students are to be challenged and engaged in the learning process, pedagogy, and technology integration should stem from what is known about student characteristics and preferences (Hanson et al., 2011). Not all students are clamouring to use FB to connect with their institutions or classmates for formal academic purposes. Although some students are open to classroom use of FB, school-mandated learning management systems may still be preferred. Thus, the integration of new and commercial technologies may not always be well-received in classrooms. It will take more creativity, education, and time, before social

networking technologies are seen as “academic” or “appropriate” enough to be widely leveraged in the formal classroom.

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## **A Review of Selected Presentations from the *Social Media and Teacher Learning Conference***

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### **Introduction**

One of the advantages of conducting a conference within an online learning platform, such as the Adobe Connect learning environment which was used for all of the presentations at the *Social Media and Teacher Learning Conference*, is that all of the sessions can be recorded. Normally, in a two-day, face-to-face conference, a participant can attend perhaps five or six sessions. But the participants of the *Social Media and Teacher Learning Conference* were able subsequently to play back many of the presentations that they missed. In the preceding chapters you have been able to read some of the papers that were presented at the conference. In this final chapter, I have attempted to view all of the recordings of the conference presentations and to review a selection of the non-paper presentations. I have organized the chapter into the major themes of the conference which were: 1) social media and critical thinking, 2) initial teacher education, 3) professional learning, 4) research, critical discussions and policy issues, 5) literacy development, and 6) student engagement and learning. What is revealed in the following pages, therefore, is an intriguing and timely overview of some of the current best practices and innovative thinking of pre-service and in-service teachers, graduate students, and professors of education in Ontario's faculties of education and schools.

### **Social Media and Critical Thinking**

In Garfield Gini-Newman's conference keynote address, titled "Using Social Media to Promote Critical Thinking in the Classroom," he began by asking the audience whether children are using social media to construct knowledge or merely to communicate information. After observing that the average teenager sends 3000 texts messages each month, he pointed out that, for the purposes of constructing knowledge, students need to do more than transmit information. He quoted Alfred North Whitehead's statement from *The Aims of Education* (1916) that "in training a child to activity of thought, above all things we must beware of what I call 'inert ideas' – that is to say, ideas that are merely received into the mind without being utilised, or tested, or thrown into fresh combinations."

Gini-Newman worries that, because there is now so much data available on the Internet, students are drowning in it, and they need to be taught how to examine and critique, rather than to simply receive, the information they read online. He believes that, in order to encourage children to think about the truth value of the sources they are studying such as a Wikipedia articles, "Schools need to help students develop filters so that they can engage with the sea of information they encounter each day." For example, to explain how students are to view the biases of Twitter as a source of information, he quotes Margaret Atwood's remark that "Twitter is like all of the other short forms that preceded it. It's like the telegram. It's like the smoke signal. It's like writing on the washroom wall. It's like carving your name on a tree. It's a very short form and we use that very short form for very succinct purposes." Garfield remarked that

the biases of a social medium such as Twitter are not inherently bad. But students need to be educated to recognize the specific qualities and characteristics of such media and to think critically about how they uniquely convey their messages. He concluded his address by asking, “How do we create the conditions that inspire students to think and solve problems?” To establish the right conditions for learning in a digital environment, he believes that teachers need to employ transcendent intellectual tools such as background knowledge, criteria for judgment, critical thinking vocabulary, thinking strategies, and habits of mind that can engage students to learn within a community of digitally connected thinkers.

In her portion of the “Doing It Right with Social Media” panel presentation, Wendy Hirschegger of the OSSTF provided a brief history of the development of digital technologies in Ontario schools over the past quarter century. She then talked about her work at the OSSTF on boundaries training to help teachers to avoid some of the pitfalls of using Facebook and cell phones in their teaching. The role of the teacher federations’ leadership is to show teachers how to use social media safely, because they realize that resistance to change is pointless. She said that teachers need to be aware of how to maintain appropriate boundaries in their online interactions with students. She pointed out as well, that a teacher in England was fired for writing disparaging remarks about her principal on her Facebook page. Wendy also cautions teachers to remove from their Facebook pages the inappropriate material that they might have placed there in the past such as “party pictures.” Teachers and their students need to know how to set their privacy controls on Facebook, and they need to be careful what they write in emails and when they are texting.

Rebecca Zak is a doctoral student who creates artwork, teaches visual art, and writes about critical issues in the teaching of art, and so she admitted during her contribution to the conference’s panel presentation that she has a bias in favour of the visual image. She believes that visual images transmit information differently than numbers and words do. Zak argued that videos are a multimodal form of visual communication which, along with images, can include sound effects, music, and text. YouTube videos can serve as a particularly rich pedagogical tool, as teachers and students can pause them to allow time for reflection, they can replay them, and they can access them from home. She observed that YouTube is now the second largest search engine on the Internet and that there are many excellent YouTube video lessons that teachers can view with their classes.

Rebecca noted that the Khan Academy, for instance, has placed thousands of videos online to support students through its non-profit e-learning initiative. Students who use the Khan Academy videos can learn at home online and then come to school to receive one-on-one tutoring from their teachers. Rebecca uses Salman Khan’s approach of “flipping” her classes so that her students can view online at home the video lessons that she has created and can then use class time to discuss what they have learned from these videos or they may seek individual tutoring help from her.

### **Initial Teacher Education**

In “Integrating Social Media into Pre-Service Education,” York University’s Alison Griffith presented her case study of the urban teacher education community-work practicum in the Regent Park area of Toronto. She pointed out that the teacher candidates who took part in this practicum were remarkably diverse in terms of age, ethnicity, and life experiences. What most of them had in common was that they had never been to Regent Park. As one student observed, “On my first day travelling to our community centre, the assumptions I had of Regent Park were

inflated to the point where I decided against wearing my watch, glasses, chain, or nice clothes and I didn't bring my laptop or iPod.”

Teacher candidates were encouraged to come to know the community through a course in which they learned from the knowledge of the students of the Regent Park area. They wrote ethnographic notes about the demographics of the community, and about what and who they saw. One of the teacher candidates reflected as follows:

As my eyes were being trained to take in all that was around me and to look for the subtle expressions in the way that space was being used, I began to see the connection between teaching in the classroom and observing the community at large. I began to use the images that were being posted on Facebook as a way to broaden my perspective on the visual canvas of Regent Park, as well as bringing these images into the classroom during art and science lessons as a means to make the coursework relevant to the students.

Facebook was the repository for everything that was shared by the teacher candidates in Griffith's course. The 47 students in the course were divided into smaller groups to upload their ethnographic notes and visual data, but they were able to read and view the work of all of the other members of the class. One teacher from the “Language” group, for instance, wrote the following entry:

My practicum class is predominantly of African, Caribbean, and Middle Eastern descent. ... I am wondering as to how this environment aids or inhibits language development. I believe that communicating across racial boundaries is beneficial for our language faculties, in that it is more challenging. Still, though, we humans seem to like to segregate ourselves whenever possible.

Having become aware of the community's needs, teacher candidates were then able to create units that were based on the Ministry Curriculum documents but which relied upon YouTube and other online resources to provide lessons that were relevant to their students' everyday lives. After the course was finished several of the students have continued to post to the course's Facebook site. One caution that Griffith offered was to be very careful to use privacy settings to protect the students' and the teacher candidates' privacy.

Cliff Moon is an instructor of science and technology education methods courses at UOIT who has employed WebCT to involve his teacher candidates in online discussions through which they can share with each other resource packages, lesson hooks, and practical, hands-on teaching activities which are then available to their peers when they are involved in their practicum experiences as well. At the beginning of the year, when the teacher candidates go out to observe the classrooms in which they will eventually be teaching, Cliff encourages them to record their observations about the science education resources that are available for use in the schools. Then, throughout the year, the teacher candidates continue to post observations such as the following comments concerning a grade 4/5 class:

Each classroom contains between 3 and 5 desk computers, and some identified students bring their own laptop to class. For example, in my classroom, there are 5 students who are identified as having learning disabilities, 3 of which bring a laptop to class which

they use to type assignments, rather than hand write them, particularly in their language class. These laptops as well as the classroom desktops contain reading and writing software, some of which can read aloud stories to students, or read back what they type.

Throughout the course Cliff provides prompts to encourage his students to share their ideas online such as: “Comment on the value of using robotics in the classroom. Into what strands and topics could it be incorporated and at what grade levels?” Some of the science and technology resources that Cliff’s students share with each other through WebCT discussions include games, workshops, guest speakers, story books, software, websites, videos, and SMART board activities.

### **Professional Learning**

In the presentation by OISE graduate student, Monica Anne Batac, she discussed: “On-line and Offline Relationships: Exploring the Dynamics of Teacher Learning for Technological Integration.” Monica conducted a narrative study which included conducting a number of one-hour interviews of three teachers who used the Technological Pedagogical Content Knowledge (TPACK) approach to their professional learning. These teachers were involved in continuous collaboration and dialogue, both on-line and offline. One taught grade 7, one taught grade 6 while also serving as an in-school technology support, and one taught grade 3 while she also worked as a literacy coach in her school. Monica’s research questions were: 1) How do teachers come to the point they are at in regards to technology integration? 2) What are the reported key values and ideas in understanding technology use and integration? 3) What role does collaboration and dialogue play in the teacher’s acquisition and development of TPACK? and 4) What kind of training or support do teachers seek when trying to implement technology in their classrooms?

Among the TPACK approaches that these teachers have used with their students and discussed with each other are: digital storytelling (personal nonfiction narratives with audio and visual components), assistive technologies (Dragon Dictate), Puppet Pals, SMART Boards, and iPads. As one teacher observed, concerning how he models his own learning with his students:

If you want to Bring Your Own Device (BYOD), where you get students to bring their own devices, do you bring your own device, too? Then that’s not an event. That’s a culture you’re going to have to develop, and *you* have to be part of that culture... If you really want your students to use handheld devices for productive purposes, show how you do it, without instructing on it. Literally, just do it and the kids notice.

Concerning online relationship building among teachers who are trying to develop their TPACK capabilities one teacher observed that:

I really, really need the online professional learning community because that moves me forward in my thinking and learning. No one here knew how to solve issues. I was the only one in the school, in the whole town who was using the iPad for learning last year. I didn’t have anyone that I could really bounce ideas off of. I needed that online community... We are all on Twitter... and when we meet now, it’s just to pick up on our last tweet and to go forward with our planning.

When the three teachers discussed technological support and mentoring of colleagues, one said, “If you go in too much or with something that cannot be followed up or supported, then it’s not going to fly.” He felt that the important thing was to work together with the teachers in order to build trust. Most of the ideas come from the teachers, and he simply makes suggestions and guides them.

In Queen’s University doctoral student, Chi Lam’s, presentation, he discussed “Engaging Teachers for Professional Learning with Social Media.” His study considered how teacher candidates used Twitter to engage in their learning activities. One of the underlying assumptions of his study was that the use of social media in teacher learning has brought about a paradigm shift in which educators are generating content that relates to professional practice. In collaboration with instructors and students of the Assessment course that is taken by the 700 B.Ed. students at Queen’s, Chi set out to describe how “assessment learning requires learners to actively engage with peers and to challenge their own experiences and conceptions of assessment.” So he devised a simple activity that involved the students in tweeting during their practicum any time that they had a question, idea, observation, or advice about assessment, or whenever they were struggling with or having an “ah-ha” moment while attempting to assess their students. At the same time, the students were given feedback about their tweets by their peers and instructors.

Some of the lessons that were learned through Chi’s study included the awareness that: 1) We need to deliberately teach and model how to engage in professional learning via social media; 2) The learning curve for using Twitter/SM as educational technology was steep (Which button to click? How to navigate the site? What do I do if I am over 140 characters?); 3) We now know how to use Twitter to extend conversations beyond faculty walls and how to pick up and use discussion threads to inform subsequent meetings; 4) Success of the professional learning community (PLC) depended on having a critical mass of already-participating educators on the network, the availability and quality of the content that the community members produced, and the participation levels of the PLC members. Chi concluded by asking how do we legitimize using social media such as Twitter for teacher learning and how do we find the time to fit Twitter into our daily activities as teachers. His question to the participants at the conference, therefore, was, “What strategies might promote teacher learning over social media such as Twitter?”

### **Research, Critical Discussions, and Policy Issues**

In her presentation, “Digital Divide, Social Justice, and Equity Revisited,” Dragana Martinovic of the University of Windsor posed the following question: “What is the present status of the digital divide?” In order to answer this question she chose to define digital or media literacy as “the ability to locate, organize, evaluate and analyze information using digital technology.” Originally the digital divide meant access to technology, but now that 98% of Canadian youth have access to the internet, the question has become: “How technologically literate are they?” It is no longer sufficient to give computers to children. They need access to equitable learning opportunities and resources. Students with high socio-economic status in Canada almost universally have unlimited access to computers. Children in immigrant families with lower economic status, nevertheless have good access to computers and the Internet. Marc Prensky says that early access to computers rewires the brains of children. So children have become the gurus in their families. Social divides now exist between social groups who use different media such as Facebook and MySpace, such that the “hegemonic youth” tend to favour

Facebook and the “subaltern youth” tend to favour MySpace. Some middle class parents are limiting their children’s access to the Internet in order to protect them from predators. Parents from Pakistan were concerned that their children would waste their time online instead of doing their homework. So the notion of the digital divide has become very rich, deep, and diverse. In order to bridge the digital divide, teachers can use open access online resources. Cellphones can be used as vehicles for learning as many young people have access to them. If a classroom is not connected to the internet, but students have access to cheap computers, then the teacher can use memory sticks to provide them with information that she has gathered for them online. Martinovic concludes by pointing out that we need provide professional development opportunities to help teachers to gain ICT skills, and we need to encourage them to make use of the expertise of their students to enrich their classroom learning environments.

In his “Comparative Analysis of Cyberbullying Perceptions of Pre-Service Educators” Thomas Ryan of Nipissing University defined cyberbullying as “being cruel to others by sending or posting harmful material using technological means; an individual or group that uses information and communication involving electronic technologies to facilitate deliberate and repeated harassment or threat to an individual or group.” Another definition which he provided was taken from Bell Belsey at [www.cyberbullying.ca](http://www.cyberbullying.ca): “Cyberbullying involves the use of information and communication technologies such as e-mail, cell phones and pager text messages, instant messaging, defamatory personal Web sites, and defamatory online personal polling Web sites, to support deliberate, repeated, and hostile behaviour by an individual or group, that is intended to harm others.” Ryan argues that cyberbullying differs from face-to-face bullying in that it is anonymous, occurs off school property, and is further under the radar than traditional bullying. Some categories of cyberbullying include “inadvertent,” “vengeful angels,” “mean girls,” “power hungry,” and “revenge of the nerds.” The activities of cyberbullies include “flaming,” “harassment,” “cyber stalking,” “denigration,” “impersonation,” “outing and trickery,” and “exclusion.”

After surveying, at the end of the B.Ed. year, 240 pre-service teachers, 60% of whom were female and 40% of whom were male, Ryan found that 72% were aware that cyberbullying is a problem in schools, 89% agreed that children are affected by cyberbullying, 79% were concerned about cyberbullying, 92% would do something if cyberbullying occurred in their school, 33% felt confident that they would be able to identify cyberbullying, 15% were confident about managing cyberbullying, 49% viewed cyberbullying as a topic that is just as important as other topics covered in the teacher preparation program, and 56% did not feel that the program had prepared them to manage cyberbullying.

Ryan pointed out as well that the problem of cyberbullying is growing. 90% of middle school students have had their feelings hurt online. 65% of students between 8 and 14 years of age have been involved directly or indirectly in a cyberbullying incident as the cyberbully, victim, or friend. 50% of middle school students have seen or heard of a website that bashes another student. 40% of middle school students have had their password stolen and changed by a bully who has locked them out of their own account or has sent communications posing as them. Finally, only 15% of parents know what cyberbullying is, while 58% of children have not told their parents or an adult about something mean or hurtful that has happened to them online. Some of the recommendations that Ryan offered to counteract the problem of cyberbullying were that committees should be formed in schools to look at the problem and develop policies to deal with it, parents should be involved, and the topic needs to be addressed in school assemblies. In the area of support, pre-service teachers believed that schools should link with

community resources to deal with cyberbullying, children should receive counselling when they have been cyberbullied, and television and related media should be used to distribute cyberbullying information. He concluded by saying that law enforcement officers should be contacted if an educator becomes aware of: 1) death threats or threats of other forms of violence to a person or property, 2) excessive intimidation or extortion, 3) threats or intimidation that involve any form of bias or discrimination, or 4) any evidence of sexual exploitation.

### **Literacy Development**

Dale Willows, Kasia Kania, and Kate Bryant, from the Dr. Eric Jackman Institute of Child Study at the University of Toronto, explained how they are disseminating information about their “Balanced Literacy Diet” website through the use of social media. Willows began the presentation by saying that teachers need to be “gourmet literacy chefs” who can produce literacy diets that meet the needs of young readers. The fifteen key reading “food groups for a balanced literacy diet” that Willows identified were: motivation for literacy, oral language and ELL, knowledge building, concepts of print, writing conventions, phonemic awareness, letter-sounds and phonics, spelling and word study, vocabulary, reading fluency and expression, reading comprehension strategies, writing processes and strategies, text structures and genres, classroom tips, and assessment. She then introduced the [www.litdiet.org](http://www.litdiet.org) website which contains more than 500 engaging short sample videos of lessons that teachers can use to understand how to teach each of the above fifteen reading instruction elements. The website also includes 16 virtual literacy classroom tours through which educators and parents can move through a classroom and click on certain “hotspots” in order to launch videos in which the classroom teacher explains how she addresses the above literacy “food groups.”

Next, Kate Bryant explained how the team has used Facebook and Twitter to publicize the website through a “two-way conversation.” She pointed out that they found subscribers by building an online Balanced Literacy Diet organizational presence on Facebook and she demonstrated how a growing population of “friends” have “liked” the site and thereby “subscribed” to it. She also connected with some teacher organization Facebook sites to link them to the Balanced Literacy Diet Facebook site. Kate concluded her presentation by explaining how Twitter is being used to post tweets to like-minded literacy teachers. These tweets that employ the hashtag, @balancedlitdiet, contain links to the website’s videos as well. Finally, Kasia Kania described how the team has used their YouTube channel to connect people with the website and to track how effectively their Facebook and Twitter publicity campaign has been working. She mentioned that after two months of operation there were 150 subscribers to their YouTube site and that the site has already received 21,000 hits. Through Google Analytics, Kasia was able to determine the gender and age of the 24 people who viewed one of the featured Balanced Literacy Diet videos on a given day. She was also able to see how video use changed over time and how many viewers there have been in various countries.

Another group of researchers, Julia Ferrari and Madison Aitken from OISE and Rhonda Martinussen and Kathleen Hipfner-Boucher of the Dr. Eric Jackman Institute of Child Study at the University of Toronto also examined the use of the Balanced Literacy Website in order to consider how effective literacy practices on YouTube were creating new directions in teacher preparation. Their findings were that instructors who used the website found it challenging to determine which videos to use, how many videos to show in one class, how to sequence the videos, and how to deal with technical problems such as sound quality and streaming videos. However, the benefits that the instructors reported after they used the online literacy instruction

videos were that 1) they provided another way to communicate key elements of a construct and teaching methods, 2) several videos could be incorporated in a single lesson because they are brief, 3) they can be used for homework or assignments, 4) they can inform the content of the lecture, 5) they provided material for critical analysis, 6) they engaged students in a shared discussion about a common experience, and 7) they helped students to connect theory and practice. For their part, teacher candidates reported that the videos helped to increase their engagement with and knowledge of evidenced-based literacy teaching practices. And they felt that the videos provided them with good ideas and teaching strategies which contributed to their feeling of preparedness.

### **Student Engagement and Learning**

Queen's University PhD student, Ena Holtermann, in her presentation, "Motivational Underpinnings of Social Media Use by Adolescents," argued that the need for social connection is what is at the heart of adolescents' interest in social media. As a Communication Technology teacher in secondary school and as the mother of a teenager, Ena knew early in her career that she wanted to connect her students to social media so that they could become engaged in authentic learning tasks. She was interested in how adolescents use social media such as instant messaging to make meaning of their world and how such usage impacts the social context of the classroom. So her key research questions were, "What motivates adolescents to use social media and how does this use shape their perceptions of themselves and others?" She discovered that adolescents most frequently say that it is their shared emotional connection that drives them to use social media.

Because Facebook, Twitter, and YouTube are now omnipresent in the lives of teens, most of them view these media as a positive part of their lives. Developmental researchers agree that the use of social media can encourage adolescents to develop autonomy. So Holtermann believes that it is important for educators to include these media in their teaching practices. She also believes that psycho-social autonomy, or the desire to individuate and grow in their understanding of themselves and others within their social contexts, can enable adolescents between the ages of 12 and 17 to gain a sense of competence and relatedness. As Holtermann pointed out in her presentation, self-determination theory suggests that individuals are motivated to learn about their world through inherent curiosity and natural interest. "For adolescents, the intrinsic desires to learn about their social world, feel connected to others, and achieve a sense of individual identity may be realized using social media."

If youth are saying that they use social media to connect with their friends, then, how does that differ from the experiences they are having now in schools? She explained that when we feel socially and emotionally connected with one another there are opportunities to learn. As students believe that they have control over their media production and online communication, they gain a feeling of competence and a willingness to take risks through virtual social engagement that is different from the kinds of social interactions that they experience in face-to-face classroom interactions. The marginalized youth with whom Holtermann works have opportunities to explore anonymously their public personas and diverse identities in a relatively risk free informal learning environment. For instance, gay, lesbian, and transgendered students have the chance to encounter other individuals who share their struggles and to enjoy the public acknowledgement of their identity without the risk of being rejected or bullied in a face-to-face classroom situation by students who do not understand them. "One in three adolescents prefers

online communication with peers as opposed to face-to-face communication when discussing sensitive topics such as love, sex, and intimacy.”

Dawn McGuckin began her presentation on “Social Media in the Online Graduate Student Experience” by engaging the participants in a brainstorming exercise concerning how each of them use Facebook, Twitter, and Wikipedia in their work and personal lives. She then briefly described the synchronous Adobe Connect learning environment that she experienced in her courses before she moved into a detailed description of the asynchronous learning that occurred in Wikis, Nings, and YouTube. Dawn felt that there was much more opportunity through social media to collaborate with her classmates than she had experienced during her undergraduate studies. Now, as an instructor at Durham College, she uses social media to change the way the students learn. She makes YouTube videos to help her students understand the course material and she employs Twitter to engage her students in responding to each other’s ideas. She says that although students are used to playing with technology they are not necessarily aware of how to use social media responsibly and critically in their studies, and that it was, therefore, worthwhile for her to examine the educational use of social media in her graduate courses.

During OISE doctoral student, Shawn Lennie’s, presentation, titled, “The Google Potential: Facilitating Student Engagement and Interactivity in the Google App Ecosystem,” he discussed Marshall McLuhan’s notions that we live in a global village, the medium is the message and the medium is an extension of the person. After doing a basic demonstration of some features of Google Docs, and then sharing a video about the rapid rate of technological change in the lives of students, Shawn stated that social media are extensions of our desire to communicate within our various cultures. The gap between the way students communicate within their millennial generation culture and the way most instructors communicate within the culture of academia has caused both students and instructors concern. Shawn finds, for instance, that his students no longer read the way previous generations did. They tend to skim. So he raised the following questions about how to use Google to engage students in communicating with each other about their course readings: 1) How do I engage students in the readings? 2) How can I support dialogue about scholarship? 3) How do we learn from text? 4) How do we address their argument that they don’t read in traditional forms?

Some of the themes that Shawn addressed in his presentation were convergence, authenticity, persistence, emergence, autonomy, and control. He pointed out that the convergence of various social media such as Twitter and Google is increasing our ability to communicate with each other about our developing ideas. He wondered, though, about how to achieve authentic dialogue in online chats if students are not interested in the material under discussion. As students construct knowledge through platforms such as Google Docs and wikis, their knowledge can persist from session to session. In this new paradigm, knowledge has become less transmissional because it emerges from conversations. Students have more autonomy in constructing and co-constructing their knowledge, and so they become more engaged in the learning process than they did in less interactive learning environments in the past. This new online learning paradigm also gives the students more control over their learning processes.

The theoretical framework for Shawn’s view of teacher learning through social media is based upon the notion of connectivism which involves “the integration of principles explored by chaos, network, and complexity and self-organization theories. Learning is a process that occurs within nebulous environments of shifting core elements not entirely under the control of the individual” (Downes and Seimens, 2006). So Shawn’s students’ online learning tends to be

chaotic and complex, but very engaging. In the Google Docs (asynchronous) and Google Plus (synchronous) environments that he and his students use, they can create documents, share documents, edit sharing settings, insert comments, and chart the revision history of their co-constructed documents. Because Google is an open source platform that is part of an ecosystem that includes YouTube, wikis, blogs, and many other features, there are opportunities to create and share not only word documents, but also tables, drawings, videos, etc. Opportunities to co-produce assignments through Google Docs and Google Plus are almost limitless and therefore teachers and students can explore their emerging ideas together in ways that excite all members of the learning community.

### **Conclusion**

Although this chapter included only a selection of the presentations from the conference, it is clear, even from this sample, that the terrain of social media and teacher learning is vast and rich. For instance, Ontario teachers are learning how to protect their students from cyberbullying. They are discovering how to connect their students with each other online so that they may co-create assignments in the Google Doc ecosystem. And Ontario's teacher educators are enabling pre-service and in-service teachers to study best practices via YouTube videos on the Balanced Literacy Diet website. What we all came to appreciate at this conference is that the number and variety of ways in which Ontario teachers are enhancing their pedagogical approaches through the thoughtful deployment of appropriate social media is staggering to contemplate.

We glimpsed a new, disconcertingly chaotic, and profoundly complex teacher-learning paradigm at the *Social Media and Teacher Learning Conference*. Many conference presenters commented upon the power of social media to bring teachers together in online professional learning communities (PLC). In fact, the conference participants themselves comprised one such example of a PLC as they came together to co-construct their understanding of teacher learning in the social medium of the Adobe Connect online learning platform. By the end of the conference, participants shared the realization that the role of at least some visionary Ontario teachers now includes facilitating their students' engagement with virtual learning materials by connecting them with their peers via social media across disciplinary, cultural and geographic boundaries. If the examples of teaching through social media which were presented at this conference are indicative of a general evolution of our education system, then the future of learning in Ontario's schools will be exciting indeed!