Teaching Web Literacy in the Age of New Literacies

by

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Abstract

This M.Ed project focused on the best practices for incorporating Web literacy into school curriculum. The purpose was to understand what Web literacy skills are and how to instruct Web literacy. Socio-cultural theory, new literacies, multiliteracies, and adolescent literacies informed the understanding of this project. The project is divided into four main sections: introduction, literature review, unit plan, and reflection.

The review of the literature resulted in three main implications for instruction and practice: 1) Web literacy must take into consideration students' practices and beliefs; 2) educators need to accept that the nature of the Web is complicated and demands a complex set of skills separate from traditional print text; and, 3) Web literacy must become a regular part of school curriculum. These implications resulted in the development of a unit plan which incorporates the scaffolding of Web literacy skills into the Grade 8 English and Social Studies curriculum. The unit plan includes detailed instructions, printouts, and assessment for instruction in Web literacy.

Finally, the reflection reviews the process that occurred from the beginning to the end of the project. The reflection includes choosing the topic of Web literacy, researching and writing the literature review, creating the resource, and discussing personal goals for the future.

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Dedication

I would like to dedicate this project to my husband, Hal, and to my parents, Steve and Maria. Hal's continuous encouragement, patience, and love were able to get me through the completion of this project. To my parents, your support for life-long learning helped me pursue this goal.

Chapter 1

Introduction

Students and their Web use has become a paradox in education. Students enjoy using the Web both inside and outside of school as the Web has become a part of their everyday life. It is amazing to observe students when they are using the computer, as many of them can move quickly to interact with the sites online. However, though students may seem comfortable when using the Web, the reality is that they are not well versed in the critical aspect of working online. Studies have revealed that many students are not able to efficiently or effectively search, locate, read and evaluate sites online (Badke, 2009; David 2009).

When I was at the end of my practicum, I experienced students' lack of Web literacy skills first hand. During a final project my students were in the computer lab for a whole week to research information for their topics. I quickly realized that many students did not know how to search or critically evaluate online sources. It then became obvious to me as to why so many teachers prefer the use of hard copy books for projects; too many students do not have the skills for reading online and teachers do not have the support for instructing Web literacy. However, to not include Web literacy instruction into the curriculum is a disservice to both the students and to teachers, as the use of the Web is essential for survival in the work force and for the pleasures of lifelong learning.

Purpose

The purpose of this project was to determine what exactly Web literacy was, how Web literacy is different from traditional print literacy, and what Web literacy instruction should look like. Many educators want to be able to use the Web with their students but

do not have the support or have not received adequate in-servicing about how to deal with the consequences of doing so (McGrail, 2005). In understanding what specific skills students need to be considered Web literate, and how to approach teaching such skills, educators will hopefully embrace Web literacy as part of their regular curriculum.

Definitions

New literacies.

New literacies is an umbrella term that describes the literacy skills needed to use information communication technologies (Coiro, Knobel, Lanksher, & Leu, 2009). Coiro, Knobel, Lankshear, and Leu (2009) define four characteristics of a new literacies perspective: 1) Internet and other Information Communication Technologies require a specific set of skills in order to use effectively; 2) New literacies are central to full civic, economic, and personal participations in a world community; 3) New literacies are deictic in that they rapidly change as defining technologies change; and, 4) New literacies are multiple, multimodal, and multifaceted (p. 14).

Web literacies.

According to Kuiper, Volman and Terwel (2009), Web literacy is a concept that is comprised of "a combination of various skills regarding the critical use of the Web for one's own purposes" (p. 669). Web literacy skills can be divided into three subcategories that including searching on the Web, reading on the Web, and evaluating on the Web (Kuiper, Volman, & Terwell, 2009).

Overview of Project

This project includes four chapters. The first chapter has provided the reader with a general outline of the project including its purpose and important definitions. The

second chapter is the literature review and contains information on the theoretical and conceptual frameworks surrounding Web literacy, discusses how the Web functions as a new literacy, examines students' Web literacy skills using resource tools, discusses students' beliefs about using the Web, and presents issues and implications for practice. The third chapter is the resource, a unit plan which I designed to show how to incorporate Web literacy strategies into the content areas. The unit plan uses Grade 8 English and Social Studies prescribed learning outcomes. The fourth chapter is a personal reflection on the entire project. The reflection discusses my reasons for choosing the topic of Web literacy, explains the process I went through for researching and writing the literature review, details my thoughts on the unit plan, and discusses my future goals for professional development.

Summary

Teaching Web literacy skills as part of the regular school curriculum will continue to be a topic of modern education. Most educators and scholars agree that students must learn how to critically use the Web. This project gave me the opportunity to determine what scholars already know about the issues and implications of Web literacy, and to develop learning activities that focuses on critical Web literacy skills.

Chapter 2

Literature Review

The Internet and the use of the World Wide Web has become an integral part of society. The Internet is used at work, home, and school; it offers vast, and at times overwhelming, amounts of resources and information. A 2009 article published in *Career World* discussed skills that students should not leave high school without and ranked "Web literacy" as number one (Reece, 2009). Reece (2009) defined Web literacy as "the ability to access, analyze, and evaluate online information" (p. 21); but Web literacy is a complex set of skills unique to its environment and requires a more nuanced definition. Kuiper, Volman, and Terwel (2009) propose that Web literacy is "the ability to handle the Web critically" (p. 669). They include three skills within their definition of Web literacy: Web searching skills, which includes using appropriate key words, locating relevant information, and knowing different ways to locate information; Web reading skills, which is the ability to interpret the results of search engines (such as Google), understanding and using hypertext, and knowing which information to choose and which to disregard; and Web evaluating skills such as assessing the reliability and validity of sources and relating text images to various sites (Kuiper, Volman, & Terwel, 2009, pp. 669-670).

The teaching of Web literacy skills has become an important focus in research and in education because of the influence of the Internet on all aspects of life (Badke, 2009; David, 2009). One of the largest concerns for educators is that the Internet was not designed for children, nor for an educational setting (Fabos, 2009; Kuiper, Volman, & Terwel, 2009). Therefore, designing curriculum and strategies to help students become

critical Web users has been a challenge. With most school curriculums embedded in traditional literacy skills, educators struggle to find space to teach Web literacy. Further, because most students have grown up using the Internet, many believe they are already competent users which can make them resistant to lessons (David, 2009; Kuiper, Volman, & Terwel, 2009; Heil, 2005).

The literature review examines the theoretical and conceptual foundations in which to view Web literacy, discusses students' Web literacy skills and their beliefs about the Web, explores resources that have been developed to help students deal with the Web, and examines issues and implications for research and practice.

Theoretical and Conceptual Foundations

In order to understand the complexity of learning and teaching Web literacy skills there is a need to examine the theoretical and conceptual understandings adopted by researchers in the field. Many scholars argue that within the study of Web literacy there is no single approach, but rather multiple perspectives (Coiro, Knobel, Lankshear, Leu, 2009; Kuiper & Volman, 2009). This section discusses how a sociocultural approach to learning, a new literacies perspective, a multiliteracies perspective, and adolescent literacy impact a scholarly view of Web literacy.

A sociocultural approach. Gee (1992, 2002, 2003) argues that to understand learning as sociocultural one must know that the mind is social, learning is embedded in cultural practices, and meaning is always situated. A sociocultural approach to learning has become an important lens to examine reading and writing in any context. Through a socio-cultural approach, Gee (1992, 2002, 2003) has sought to expand the notions of literacy and how literacy learning occurs. Gee (1992) posited that the traditional view of

literacy skills, which were once seen as an individual's mental possessions, is inadequate for understanding the learning process.

Lankshear and Knobel (2007) suggest that a sociocultural approach to learning is critical for teaching because it means that reading and writing are understood as social, cultural, political, and economic. Individuals read and write many different types of texts – oral, print, visual, multimedia – using many different genres. Further, each type of text requires different background information and different types of skills in order for it to have meaning, and the background knowledge that a person has will influence the way one reads and interprets different texts (Lankshear & Knobel, 2007). Therefore, a socio-cultural approach to learning views literacies as plural and literacy skills as socially embedded practices as opposed to those which are generalized or isolated from specific contexts.

Socio-cultural theorists view social practices as members participating within a particular community. Gee (1992) uses the term Discourse, with a capital 'D' to identify social practices. Within each social practice or Discourse, there are ways of talking, reading, writing, thinking, valuing, and interacting. According to Gee (1992), each type of literacy practice within a Discourse has discourses. Therefore, to be literate in a Discourse one must be able to be competent in the various discourses of the practice. Further, to be a member within a Discourse one must participate in it, and learn from someone who is already considered an expert. These learnings must be scaffolded by more sophisticated others and the learner must be able to see when certain skills are useful and how to apply those skills (Gee, 1992; Vygotsky, 1978).

Being a member of a Discourse determines how individuals can make meaning of situations and of their world. People become literate in different domains by being actively involved in the practice rather than passive. Active people feel they are part of a community (Gee, 2003). Gee (2003) claimed that "[l]iteracy in any domain is actually not worth much if one knows nothing about the social practices of which that literacy is but a part" (pp. 14-15). Lankshear and Knobel (2007) add that "[t]here is no practice without meaning, [j]ust as there is no meaning outside of practice" (p. 2). Hence, reading and writing will have no meaning if they are practiced outside of the social contexts in which people participate. Further, deeper meaning is given to a text when someone is a producer of a text within a social practice rather than just a consumer (Gee, 2003). By the same argument then, those who are producers within a social practice are also better consumers because they can read and understand the text of the social practice.

Finally, socio-cultural theory recognizes that there is a need to connect the various areas of Discourses in which people participate. Gee (2003) divides Discourses into two domains: lifeworld domains and semiotic domains. Lifeworld domains are ordinary and inclusive of the human race, whereas semiotic domains are specialized in that only people who participate and practice in them are a part. Gee (2003) argued that there are more semiotic domains than lifeworld domains but that there needs to be a balance between both. Finding a balance between domains helps people become critical learners as they must be able to "attend to, reflect on, critique, and manipulate design grammars at a metalevel" (Gee, 2003, p. 40). Essentially learners should be able to think about the skills they have and can use, and determine how and when to transfer those skills to other domains.

Gee (1992) includes three assumptions for practice in socio-cultural theory: 1) thinking and speaking are functions of social groups and their specific Discourses; 2) literacy is a social skill involving the ability to take a functional part in one or more of a given social group's Discourses, attained through guided participation and built on trust; and 3) a good part of knowledge (what people have a right to claim to know) resides not in their minds, but in the social practices of the groups to which they belong (p. 41).

According to Gee (2002), "[a]ny efficacious pedagogy must be a judicious mixture of immersion in a community of practice and overt focusing and scaffolding from 'masters' or 'more advanced peers'" (pp. 125-126). Educators need to examine what students know and value in their specialist domains, and then build connections for learning. In terms of Web literacy, even if teachers are not experts in the function of technology, or technological devices, they are still the expert in helping students build critical habits of mind. Additionally, it is the role of the teacher to scaffold the learning of critical thinking skills and demonstrate how those skills can transfer across the various domains and Discourses in which learners participate.

A new literacies perspective.

Another perspective that aids in understanding Web literacy practice is the role of new literacies. New literacies can be thought of as an umbrella term for Web literacy (Coiro, Knobel, Lankshear, & Leu, 2009; Lankshear & Knobel, 2003; 2007). It is important to recognize that though Web literacy is defined separately from new literacies, the overarching concept of new literacies affects the way Web literacies should be viewed.

Coiro, Knobel, Lankshear, and Leu (2009) acknowledge that defining and understanding new literacies is complex. Within the field there are many different perspectives, theories, practices, and issues that depend on how individuals view 'new'. Along with the four characteristics of a new literacies perspective, as outlined in the introduction, it is also important to try to distinguish what is a 'new' literacy.

Lankshear and Knobel (2003, 2007) have expanded on the notion of 'new' in new literacies. Originally, they defined new literacies simply as "literacies associated with new communications and information technologies" (2003, p. 25). However, the definition has continued to grow in order to separate 'new' from traditional literacy practices. In a later article, Lankshear and Knobel (2007) submitted that new literacies do not include the ability to look up information online or write an essay on a word processor because those would be considered traditional literacy skills simply using a new tool to speed up the task. Rather, new literacies include both "new technical stuff" and "new ethos stuff" (Lankshear & Knobel, 2007, p. 7). "New technical stuff" is considered to be tools that enable people to perform and participate in different kinds of literacies. Each type of tool can be associated with their own set of beliefs, values, norms, and procedures. "New ethos stuff" includes participatory, collaborative, and distributive literacies (Lankshear & Knobel, 2007). Therefore, "new ethos stuff" focuses on a community of learners all contributing knowledge for further understanding. "New ethos stuff" differs from traditional literacy, in that traditional literacy learning is focused on the individual and centered on the validity of the author rather than on the collective gaining of knowledge (Lankshear & Knobel, 2007).

Lankshear and Knobel (2007) provide further detail regarding "new ethos stuff," in which the true essence of new literacies is revealed. The concept of ethos is divided into two mindsets. The first mindset is that of the "physical-industrial" and the second is "cyberspatial-postindustrial" (Lankshear & Knobel, 2003, 2007). The "physical-industrial" mindset sees the world as the same as modern-industrialization except technology has allowed society to function at faster and more sophisticated rates. The "cyber-spatial-postindustrial" mindset views the world as very different from a few decades ago, and notes that these differences continue to grow. Lankshear and Knobel (2007) explain that cyber-spatial-postindustrialists believe that

> [t]he world is being changed in some quite fundamental ways as a result of people imagining and exploring new ways of doing things and new ways of being that are made possible by new tools and techniques, rather than using new technologies to do familiar things in more 'technologized' ways. (p. 10)

A "new ethos" mindset also includes understanding that to participate in a community of learning, people should be able to take "bits and pieces" of prior culture to use and remix in order to create something new (Lankshear & Knobel, 2007, p. 12). Learning is about participating and connecting to a community of practice. It is the "cyber-spatial-postindustrial" mindset which is considered the "new ethos stuff."

Therefore, the issue of practice in new literacies appears to lie in the two different ethos mindsets. Coiro, Knobel, Lankshear and Leu (2009) argue that public policies respond to new literacies by attempting to use traditional perspectives. That is, in dealing with Web literacy the Internet is seen as a tool to accomplish old methods of learning. Lankshear and Knobel (2007) suggest that the implications of traditional approaches is

that the knowledge is valued as individualistic, scarce, and centered on 'the expert'. A traditional literacies approach with the Web will not work as the very nature of it is collaborative and accepts that information is ever expanding. Lankshear and Knobel (2007) summarize their concept of "new literacies" by claiming that,

> [t]he more a literacy practice privileges participation over publishing, distributed expertise over centralized expertise, collective intelligence over individual possessive intelligence, collaboration over individuated authorship, dispersion over scarcity, sharing over ownership, [...] the more we should regard it as a "new" literacy. (p. 21)

A multiliteracies perspective.

A multiliteracies perspective complements both a sociocultural approach and a new literacies perspective, as it helps to frame the importance of teaching Web literacy.

The New London Group (1996) used the term 'multiliteracies' to expand the notion of literacy beyond reading and writing. They proposed a multiliteracy pedagogy that focused on modes of representation and meaning that included linguistic, visual, spatial, audio, gestural, and multimodal forms. Further, the New London Group argued that because society is becoming more diverse, along with the impact of new communication technologies, multiliteracies pedagogy needs to be included in education.

The New London Group (1996) recognized that the extensive use of information technologies by society was not only changing the skills needed in the work force – workers need now be multi-skilled and critical – but that it is causing a shift in people's private and public lives by creating more subcultures for participation.

Perry (2006), among many other scholars and researchers, advocates for the use of multiple literacies in the middle school classroom as students read and understand the world in many different ways. Since students are participating in various communities of knowledge, middle school students need to know that they have a valuable and unique way to contribute to the classroom (Perry, 2006).

Adolescent literacy.

A final important concept to understanding Web literacy is the role and significance of adolescent literacy. Alvermann (2008) describes adolescent literacy as "linked to social practices that involve reading and writing as well as other modes of communication in which young people engage" (p. 8). In the past, educators have focused on how to improve literacy within the content areas. However, educators are now looking beyond content literacy skills and focusing as well on the literacy skills adolescents' use outside of school in order to bridge the gap between home, work and school lives (Stevens, 2002; Yore, Pimm, & Tuan, 2007). Alvermann (2008) argues that "adolescents with access to the Internet are developing the literacies that will serve them well in the years to come" (p. 10). The latter is significant for considering what and how to teach Web literacy as most students spend more time on the Web in their home life than at school.

A part of understanding adolescent literacy is acknowledging how it contributes to adolescent identity. Alvermann (2008) recognizes that adolescents are endlessly using the Web to compose and recompose their social identities that they want to share with the world. Many adolescents use the Web to define who they are through various social media networks. The Web is also a place in which adolescents can express themselves

through remixing multimodal content, such as pictures, audio clips, and video clips to create new texts (Alvermann, 2008). As such, the Web is a place that offers adolescents the intellectual, emotional, psychological and social development that they want and need in order to form their personal identities (Caskey & Anfara, 2007).

Knowing that adolescents use the Web for identity development helps shift Web literacy practice into an adolescent literacy perspective. Therefore, Web literacy, viewed as a new literacy, exemplifies the idea that there is a need to place adolescents in the centre of practice. This focus is different from teaching content area literacies where the emphasis is on specific skills needed to read and write within the various content areas (Stevens, 2002). Stevens (2002) argues that taking an adolescent literacy stance means giving the role of meaning maker to adolescents. Stevens (2002) submits that "[o]ne of the many powerful potential benefits and indicators of the shift to adolescent literacy is the validation of this demographic section of society as worthwhile" (p. 268). At the core of adolescent literacy is placing students at the centre of instruction by providing student ownership and choice in their own learning.

The concept of adolescent literacy is fundamental to understanding Web literacy as a new literacy since there needs to be a shift away from the teacher-centered, or authority centered practice, to a more collaborative and participatory learning environment. Further, it means that educators must look at the practices in which adolescents are engaging in outside of school to determine what skills they can bring to school and, how teaching critical Web skills are beneficial for their lives.

Web Literacy as a New Literacy

If we accept that literacy skills and practices are seen as social, cultural, political and economic, then Web literacy skills should be viewed in the same way. The following section weaves the concepts of socio-cultural theory, new literacies, multiliteracies, and adolescent literacy through a discussion of the function and purpose of the Web. The conclusion of this section suggests that Web literacy demands a unique set of literacy skills which an individual must command in order to be a competent and critical Web user.

Web 2.0 vs. Web 1.0.

The Web is a vast resource of information that has evolved and changed from its original forms. Scholars have used the terms Web 1.0 and Web 2.0 to distinguish the difference in the function and purpose of the Web. Greenhow, Robelia and Hughes (2009) examine how the Web has changed over the previous 10 years and how those changes have affected teaching and learning. The term Web 1.0 has been used to classify the "first generation web" (Greenhow et al., 2009, p. 247). Web 1.0 was viewed as a classroom resource that paralleled traditional classroom practices. Web 1.0 contained authentic knowledge compiled by experts in their fields, where users were solely consumers of information. Lanksher and Knobel (2007) note that there was little participation by consumers and whatever a site published was what the consumer got. Following the idea of traditional literacy practices, "[p]roducts were developed by finite experts whose reputed credibility and expertise underpinned the take up of their productions. Britannica Online stacked up the same authority and expertise [...] as the paper version of yore" (Lankshear & Knobel, 2007, p. 17). Consequently the

development of the ‘modern-industrialization’ mindset led many educators to view the Web as a tool to be used for the same traditional literacy tasks, just performed at a faster rate (Lankshear & Knobel, 2007).

Over time, however, the Internet has continued to expand in function and purpose. With the increasing amount of information access and use, Web 2.0 became one of which users were not only reading, but were writing and composing as well (Greenhow et al., 2009, p. 247). Web 2.0 became a collaborative environment, one that was based on collective participation, and using the Web was more about producing than consuming. Greenhow et al. (2009) describe Web 2.0 as “knowledge [being] decentralized, accessible, and co-constructed by and among a broad base of users” (p. 247). They, as well as Lankshear and Knobel (2007) site *Wikipedia*.org as the most obvious example of collective participation and intelligence. Lankshear and Knobel (2007) explain the idea behind *Wikipedia* is

> that as more and more users read and edit entries online, the more the content will improve. At the same time, ideally, the content will reflect multiple perspectives, excesses and blindspots will be edited out, and by countless incremental steps the resource will become increasingly user friendly, useful, reliable, accountable and refined. (p. 18)

Understanding that the Web today acts as a tool in which members can participate in various communities, and contribute to their personal learning experiences, sheds light onto what is needed to teach and learn Web literacy skills. Web 2.0 places the user at the centre of the Web, enabling users to participate in which ever community of knowledge they wish to engage in. Users become specialized experts by participating and

collaborating within and on the Web. Thus, teaching Web literacy in light of a socio-cultural, new literacies and adolescent literacies approach is beneficial and necessary.

The role and function of search engines.

While the Web is a collective and participatory environment, in which anyone can contribute and compose, it is only one aspect of how the Web functions. Another consideration is the way in which information is found, or rather, brought to the individual user. Fabos (2009) and Lankshear and Knobel (2003) argue that there is a need to understand how search engines work in order to better utilize them as information finding sources.

Fabos (2009) explains that the Internet can be viewed as either purist or commercial. Purists believe that access to all information will continue to expand and be democratic; commercialists believe that money, corporations, and the government will increasingly control what is accessible. The Web, as framed by the history of radio and TV, proves to have followed a similar path, which is one that is commercial (Fabos, 2009).

In 1998 Google cornered the search engine market. Fabos (2009) explains that Google created an algorithm based on popularity, which meant that the more pages that were linked to a site, the more popular a site was considered. Popularity also factored in site relevance, therefore a news site would have more relevance than a personal .html page. At the same time Google and other search engines such as Overture (now Yahoo!) started an advertising-broker model where companies could pay to be associated with particular search words (Fabos, 2009). Therefore, search results did not necessarily appear any longer because they were the most appropriate for what the user was

searching for. "Instead of bringing information to *users* (which was how they continued to market their services), commercial search engines were bringing narrowly targeted *consumers* to their advertiser clients" (Fabos, 2009, p. 851). Lankshear and Knobel (2003) argue that advertisers fighting for consumers' attention have to find niches, therefore they use common interest tracking devices. Fabos (2009) explains that search engines can store data on consumers and use that information to decide what advertisements to bring up on their search screens. Thus, Google is able to assist companies in targeting users without the immediate permission of the consumer.

The function and purpose of search engines are quite problematic if one does not understand all the aspects of how they are used. For educators it is important to know that

> the Big Three [Google, Yahoo!, Microsoft] are putting their commercial interests front and centre, before their commitment to deliver objective and relevant search results, before any firm commitment to a user's privacy, and before ethical considerations to make all information freely available. (Fabos, 2009, p. 854)

This knowledge needs to be brought to the forefront of teaching Web literacy skills as one of the ways to help students make sense of the Web and understand how search engines affect their participation on it.

A unique set of skills.

Through examining the development, purpose, and function of the Web, it becomes clear that using the Web effectively and critically demands a unique set of skills that are more complex than those of traditional literacy practices (Coiro, 2003; Coiro & Dobler, 2007; Kuiper & Volman 2009; Sutherland-Smith, 2002). The evolution and

growth of the Web continues to bombard users with vast amounts of information. As well, information brought to users via search engines may not always be useful or transparent. The following section reviews research that has examined the skills necessary for successful use of the Web.

David (2009) argued that there is a strong need to teach critical thinking skills in order to reflect the open ended nature of the Internet. Kuiper, Volman and Terwel (2009) state that "[c]hildren often perceive the Web as a user-friendly resource because it contains a great deal of information as well as pictures that can be downloaded and relocated for their own purposes" (p. 668). This observation suggests that not only do students need to be taught how to locate appropriate information, but also how to critically examine all aspects of a source to determine if a particular Website will meet their needs. David stressed that students should be aware of bias, propaganda and stereotypes, and know how to use databases, search engines, and cross check sources.

Kuiper and Volman (2009) argue that the Internet can be used as a resource tool only if one understands the characteristics of the Web. The characteristics of the Web that they propose are fundamental for teaching and learning and include scope and topicality, accessibility, hypertext, and visual components. Kuiper and Volman declare that the scope and topicality of the Web are rapidly growing and extremely up to date compared to written text. However, the scope and topicality also makes it difficult to locate relevant information. Accessibility of the Web allows students to become authors to a wider audience. But lower socio-economic groups generally have less access to the Internet at home, which results in different skills being taught at school with less authorship being conducted (Kuiper & Volman, 2009). The hypertext of Web presents

reading as a non-linear process (Sutherland & Smith, 2002). Interlinked texts mean that the readers can make their own meaning as they surf the Web. However, surfing can either be intuitive or overwhelming depending on the user. Finally, the visual components of the Web are attractive to many users, especially students. Pictures require their own critical literacy evaluation skills as illustrations can be used on various sites for various concepts, and seemingly educational images may actually be commercial. Kuiper and Volman state that understanding scope and topicality, accessibility, hypertext, and visual components of the Web can help educators focus on the specific skills that students need in order to use it effectively.

Coiro and Dobler (2007) explored the strategies that good readers use in online environments. The researchers choose 11 sixth-grade participants who were considered good readers in an offline environment. As well, the participants selected had declared themselves good at using the Internet, and comfortable with thinking out loud. The researchers had the participants complete two online reading sessions. The first session consisted of the participants locating information on a preselected website. The participants were asked to think out loud while locating information on the site. The second session consisted of participants using a search engine to locate information. Again, the students were asked to think out loud while searching and locating answers. Coiro and Dobler found that the strategies used in offline reading such as prior knowledge, inferential reason, and self-monitoring, were also used in online reading. However, the study suggested that the use of the strategies became more complex as they were happening simultaneously during the searching, locating, reading, and evaluating process.

The findings from Coiro and Dobler's (2007) study confirmed previous scholars' opinions regarding the complex nature of online reading. An earlier article written by Coiro (2003) argued that online reading includes an expanded notion of offline literacies as well as new literacies, and stated that nonlinear hypertext, multiple-media texts, and interactive texts need their own set of skills for use. Sutherland and Smith (2002) similarly argued that the Web is non-linear, non-hierarchal, and non-sequential, therefore making literacy practices more complex.

Through the various research on Web literacy skills it is clear that educators must take into consideration the following: the Web is largely collaborative and participatory; the Web has many different areas in which users can be experts; the function of search engines must be used with critical thought; and, the unique characteristics (scope and topicality, accessibility, hypertext, and visual components) of the Web must be acknowledged. Finally, research indicates that the Web demands a unique set of skills that educators should help students to develop.

Students and Web Literacy

Many students already possess the technical abilities to use the Web and are motivated to use these abilities within school (Friedman & Heafner, 2008). As discussed earlier, in order for students to be successful learners and competent Web users however, they need to understand the nature of the Web, the function of search engines, and when and how to utilize Web literacy skills.

Recent studies in the field of Web literacy have sought to examine whether students have developed Web literacy skills through their extensive personal use of the Web. The consensus among many scholars seems to be that even though the average

elementary, middle, and high school student believe they are good Web users, many students still lack the Web literacy skills to search and locate appropriate sources and to assess and evaluate information found online (Badke, 2009; Baildon & Baildon, 2008; David, 2009; Heil 2005; Kuiper & Volman, 2009; Kuiper, Volman, & Terwel, 2008; 2009). The following section discusses studies that have examined students' abilities to search, read, and evaluate on the Web.

Web searching skills.

The first skill required for successful use of the Web is the ability to search and locate needed information. Henry (2006) argued that, "locating information is, perhaps, the most important function of reading on the Internet; [a]ll other decisions and reading functions on the Internet emanate from the decisions that are made during the search process" (p. 616). Unfortunately most students are not proficient at searching for information. Multiple studies on Web search behaviour have revealed that when students are searching for information they tend to choose the first few sites that appear in searches engine results (Baildon & Baildon, 2008; Heil, 2005). Students assume that the first few links available are reliable and will contain the desired information. The behaviour of automatically choosing the first few search results demonstrates that many students do not understand how search engines work. Heil's (2005) study with a Grade 8 class demonstrated how students think about the Web and how they locate information. Her research included a survey that asked students questions regarding publishing information and costs associated with the Web. The study revealed that 93% of the students did not understand how or who could publish on the Internet. Further, students did not understand the use of advertising on sites such as Google.

Also of concern when students are searching is their inflexibility to change their search behaviour when they are not successful. Kuiper, Volman, and Terwel (2008; 2009) conducted a study with eight Grade 5 classes from eight different schools. The schools and classrooms ranged in gender, culture, and socio-economic composition. The purpose of the study was to examine students' abilities to search for, read, and evaluate information on the Web, as well as determine how well students could transfer Web literacy skills to different tasks. Both quantitative and qualitative data were gathered and used to examine the various aspects of students' Web literacy skills and behaviours. The findings from the research conducted by Kuiper et al. (2008; 2009) suggested that the issue of inflexibility is due to students either being convinced that their search approach is appropriate or that Google will eventually find the answer. They further concluded that middle school students prefer Google because they believe that they can locate anything using the search engine and can get information quickly by typing only a few terms. Instead of changing their search strategy when unsuccessful, students continue to browse and expect that Google will eventually find the relevant information for them (Kuiper & Volman, 2009; Kuiper et al., 2008). Kuiper et al. (2008) observed that students "knew that the answer could be found through using Google and failing to [find the answer] often resulted in questioning Google instead of questioning their own strategy" (para., 50). Students' comments included: "We typed in Madagascar and then, well we thought everything is about Madagascar" or "How is that possible, how is it possible that he [Google] doesn't know that?" (para., 48).

Finally, a study by Friedman and Heafner (2007) revealed that even though many students prefer to work with images, or other visual representations, they are unable to

critically evaluate images in the context of the Web. Their study was conducted with two Grade 9 classes taught by the same teacher. The control group continued with traditional literacy learning, while the experiment group was asked to collect and explain primary and secondary sources on the topic of WWII. The researchers collected data by creating a questionnaire that used a Likert-scale and qualitative responses. They discovered that many students spent too much time searching for images. This allocation of excessive time caused the students to become distracted from completing the project. Further, the students did not want to evaluate the pictures they had chosen to represent the information. Friedman and Heafner concluded that students' prior knowledge on the topic, their ability to critically assess information, and the structure of the topic by the teacher were significantly correlated to students' ability to search, locate, and evaluate relevant information.

Web reading skills.

The Web literacy skill which must be in place at the start of a search is the ability to read Web links and sites. Henry (2006) stated that students' Web reading skills are much like their Web searching skills.

Students habitually choose the first few links provided and systematically move through the lists rather than reading the description that a link provides. David (2009) argued that because students do not know how to choose appropriate links they tend to go off course when clicking through the hypermedia. This approach often results in students choosing sites not suitable for their reading comprehension level which leads students to selecting irrelevant information (Baildon & Baildon, 2008).

Another common theme found in studies of students' Web reading skills is the idea of non-reading. Non-reading occurs when students prefer to quickly scan a site and often overlook reading the menu or link where an answer could be found (Kuiper et al., 2008). Kuiper et al. (2008) observed in their research that many Grade 5 students became focused on finding the exact phrase or answer they were looking for. If the students could not see the phrase or word they typed into the search engine, they would go back and try another link instead of reading through and navigating the site. This behaviour is similar to what students have been shown to do in offline environments with textbooks (Kuiper & Volman, 2009). With the use of textually explicit questions, students have learned to skim for exact phrases to answer questions (Vacca, Vacca, & Begoray, 2005). Coiro and Dobler (2007) argued that because online reading demands more complex skills than offline reading, simply scanning a site without considering site structure or reading through the hyperlink options makes finding information much more difficult.

Like those students in the research conducted by Kuiper et al. (2009), MacGregor and Lou (2006) noticed Grade 4 students did not want to read through the sites to determine if the information was useful. Using WebQuests to determine the type of sites that students preferred, MacGregor and Lou (2006) found that students wanted sites that provided them with most amount of information quickly. The students did not want to have to read the sites to determine if information was there, but rather felt they could scroll and skim to locate the information more quickly. Students also expressed a preference for websites with visible subheadings and minimal segments of text. Further, students disliked leaving the main page and navigating through a site to find information. Finally, students expressed a strong preference for graphic support which included charts,

tables, photographs, or videos. These results seem logical as society is bombarded with images and other visuals. Students growing up in the new millennium have become accustomed to the many different mediums of expression, and therefore would be more comfortable expressing thought or ideas through visuals.

Web evaluating skills.

The last Web literacy task to consider is Web evaluating skills. Wyatt-Smith and Elkins (2009) argue that even if students have the technical skills to search for information or use the Web, they still may not have the ability to determine what is credible information. Further, Wyatt-Smith and Elkins suggest that critical evaluation on the Web should be at the forefront of teaching Web literacy skills. Critical print literacy skills, though needed for online evaluation, are not enough to teach students how to evaluate text and images found on the Web.

Research has shown that many students are overconfident about the reliability of websites and often ignore publisher information, authors' intent, corroboration, and historical context (Badke, 2009; Damico, Baildon, Exter, & Guo, 2009). For example, in Heil's (2005) study, she found that 50% of her Grade 8 students did not generally consider the reliability of sources on the Internet. The few students who claimed to know how to evaluate sites said that professional appearance, images, and the information they were searching for were all ways to critically evaluate a source. Kuiper and Volman (2009) wrote that students do not generally assess websites and when they do, they often use incorrect criteria such as quantity over quality information.

Perhaps alarmingly, the most common criteria students used to determine credibility was whether a site provided the exact information they were searching for.

This behaviour seems to correlate with explicit question activities completed with textbooks. Many students experience difficulties in answering inference type questions as they require the use of prior knowledge on the topic or prior knowledge of how to answer inference type questions (Vacca, Vacca, & Begoray, 2005). Kuiper et al. (2008) found that Grade 5 students were more concerned with the usefulness of the site rather than its reliability. Their study sought to teach students various Web literacy skills and then determine how well the students were able to transfer these skills to a new assignment. In a follow up assignment that was provided, Kuiper et al. found that students still never questioned the reliability of the Websites that they used. Similarly, Damico and Baildon (2007) found that if a site did not have the information that students were looking for, then the website was discredited or dismissed. In the same way, Heil's (2005) study also revealed that Grade 8 students felt frustrated and did not want to commit the time to critically evaluate a site. As long as a site had the information that students were looking for, they would ignore signs such as a lack of author, purpose of the site, or date on the site, clues would suggest the information may not be valid or reliable.

Finally, it is important to note students' abilities to evaluate images found online. In Friedman and Heafner's (2007) study they discovered that Grade 9 students complained about having to explain and analyze images they were searching for. Though many students became obsessed with searching for images, they neither wanted to consider the source of the images nor their reasons for selecting certain images for their project.

Summary.

As stated by David (2009), students need to make reliable and valid judgements when using the Web because the information does not come from a single authorized source. Therefore, students need to learn the necessary Web literacy skills in order to interact with the Web in a critical way. Many scholars have advocated that Web literacy should be at the forefront of curriculum as research continues to show that students lack these skills. Thus the quest for a solution has been a goal of researchers and educators since the turn of the millennium.

Teaching Web Literacy

As a result of the numerous studies that indicated that students were not as Web literate as was previously assumed, educators began to look for ways to teach such skills. Researchers began developing Web literacy resource tools as a solution to students' lack of ability to search, read, and evaluate information on the Web. However, research has also found that students believe they are already proficient Web users and are resistant to using Web resource tools. This following section explores studies conducted on teaching Web literacy through Web resource tools and students' reactions and beliefs to learning Web literacy skills.

Web resource tools.

In light of the research suggesting students lacked Web literacy skills, digital tools and WebQuests were designed to address issues with searching and evaluating (Friedman & Heafner, 2007; MacGregor & Lou, 2006). Digital tools are usually in the form of a database, in which pre-selected credible information is made available (Friedman & Heafner, 2008). Acting as guides to direct students to useful websites, digital literacy

tools enable students to cut out searching for appropriate sites. Friedman and Heafner (2008) argued that having a digital resource tool would allow students to focus on the task of reading for information and comprehension, thus eliminating the frustration of searching that so many students and teachers acknowledge. WebQuests, in a similar manner to databases, can help students proceed through the steps of evaluating appropriate sources. However, WebQuests generally guide students to pre-selected sources in order to eliminate searching and locating using search engines (MacGregor & Lou, 2006).

Other popular developments for helping with Web literacy skills include using guided questions, graphic organizers, charts and checklists. These scaffolds are used with the intention of helping students to determine if a site is useful and reliable (Badke, 2009; Baildon & Baildon, 2008; Henry, 2006). The guides are easy to follow and prompt students to evaluate sites they have discovered. For example, Badke (2009) suggests using Robert Harris' *CARS* checklist, which requires students to and assess credibility, accuracy, reasonableness, and support. Baildon and Baildon (2008) developed a Web resource tool designed for middle years students that involved an R-T-U note taking sheet. Students determine if websites were readable, trustworthy, and useful.

Although many studies have shown the positive effects of student website evaluation using digital tools or structural guides, students' abilities to transfer their new learned skills to other contexts remains an issue of concern (Baildon & Baildon, 2008; Friedman & Heafner, 2007; Kuiper et al., 2009). As well, Kuiper et al. (2009) acknowledge that digital resource tools do not teach Web literacy skills in terms of searching, locating, and evaluating appropriate information on the Web as those tasks are

already done for them. Lastly, students seem to show some resistance to using digital tools and structural guides and rather search for information independently (Baildon & Baildon, 2008; Friedman & Heafner, 2007; Kuiper et al., 2009).

Students' reactions and beliefs toward Web resource tools.

The studies conducted on teaching Web literacy through the use of resource tools revealed that students' inability to use the Web critically is grounded in their personal beliefs about the Web and self efficacy as users. Though the research on using tools for aiding in Web literacy have shown some positive results, it is vital to look at students' attitudes towards learning Web literacy skills.

A common theme discussed in most of the research that has focused on Web resource tools is students being passively resistant (Friedman & Heafner, 2008). Students constantly go back to Google and *Wikipedia* as their main sources for locating information (Friedman & Heafner, 2008; Kuiper et al., 2009). This default behaviour may be because most students believe that these sources will enable them to find their answers quickly (Kuiper et al., 2008; Friedman & Heafner, 2007; Heil, 2005). Kuiper et al. (2008) reported that even though Grade 5 students expressed feels of frustration using Google, they also conveyed an inherent belief that Google 'knows all' and the answer will eventually come up. Since digital tools or databases are not as familiar to students, the frustration they experience is equated with a lack of trust that they will not be able to find what they are looking for. Students want to be able to type a few key words and select the first few links that enable them to get the information they think they need as quickly as possible.

Students' desire to be left alone to explore on the Internet also contributes to their resistance to using Web resource tools (Kuiper et al., 2008, 2009). Kuiper et al., (2009) noted that many students see the Internet as something they can approach independently and thus want to use it freely. These feelings are strongly linked to students' self-efficacy regarding their ability to use the Internet (David, 2009; Kuiper et al., 2008, 2009). By the time students are in the middle years, most of them have been using the internet for four or five years, and most of their skills have been learned outside the school (Lee & Spires, 2009). Thus, many students have already formed searching habits that they believe work for them.

Finally, much of the research reports that students are more concerned with producing a final product rather than worrying about the process of questioning whether the information is reliable (Friedman & Heafner, 2007, 2008; Heil, 2005). Kuiper et al., (2008) found that the students in their study were very focused on finding the correct answer; but that habit may be explained by many students familiarity with scanning text to find the correct answer in order to complete an assignment.

Summary.

The students' views on using Web literacy tools and learning Web literacy skills raise several concerns for practice. Ultimately students seem to want to use the Web, especially Google or *Wikipedia*, because of the speed and ease in which they can complete a project. Most students also believe that they are already good Web users and would prefer to use it without instruction. These students' beliefs raise many questions for researchers and educators as to how Web literacy should be approached to make it engaging and relevant to students.

It should be taken into consideration that Web literacy tools, such as digital tools or databases, are not addressing the direct concerns for independent Web use (Kuiper et al., 2009). Most students use Google and *Wikipedia* in their personal lives and therefore want to use Google and *Wikipedia* in school. Issues lay within student self-efficacy as good searchers and the reality that students do not actually know or understand how Google works as a search engine. Badke (2009) suggests that educators need to acknowledge that students want to use Google and *Wikipedia* and therefore they need to teach appropriate Web literacy skills in those contexts.

Finally, students need to appreciate the relevance of developing and using Web literacy skills while feeling engaged in the process. Forcing students to use resource tools or databases that they do not like, or see relevance of, does not convince students of the necessity of Web literacy skills. Though studies using Web resource tools may yield some positive results, students do not appear to wholly transfer those skills to new situations (Kuiper et al., 2008, 2009).

Issues and Implications for Research

In order for educators and researchers to continue the quest of teaching Web literacy skills, Web literacy development must be bridged with the inclinations and motivations of our students (Wyatt-Smith & Elkins, 2009). The section below discusses some of the issues and implications for future practice as well as my goals for the unit which follows.

Issues.

Understanding and teaching the necessary skills to be considered Web literate in the age of new literacies is a complex matter. Not only is technology and the Web

continuously growing and changing, but also it has become a prominent force in the lives of our students. Without the necessary skills for Web use students could risk being more passive in their learning, less critical of the thoughts and motivations of others, and find it more difficult to solve problems in complex environments. It is up to educators to acknowledge the relevance of teaching Web literacy skills while recognizing the issues and complications that come with them.

The first issue is that print text is still the most prominent form of text in schools (David, 2009). Institutions remain largely grounded in a classical view of knowledge, one that is centred around the expert (Greenhow, Robelia, & Hughes, 2009; Lankshear & Knobel, 2007). The classical mindset is an issue for both students and teachers as the Web is focused on collaborative and participatory learning. As well, a classical focus on literacy and learning in school means it is difficult for educators to find a place to instruct Web literacy as a new literacy. Further, assessment methods match the classical approach to teaching (Friedman & Heafner, 2007). As Gee (1992) argued "[i]ntelligence and aptitude, as measured by tests, are artificially constructed measures of aspects of social practices taken out of context and attributed to individuals" (p. 41). Thus, changes in assessment methods are necessary in order for there to be a change in the institutions regarding the instruction and practice of Web literacy.

Second, students need to know how to use search engines such as Google. However, using Google and other search engines has consequences if not dealt with properly (Kuiper et al., 2008). Many students lack the cognitive skills and background information to assess sources online (Friedman & Heafner, 2007, 2008). As Coiro and Dobler (2007) concluded in their study, students need to have proficient literacy skills

offline in order to succeed with the more complex online environment. When students do not understand how to read and evaluate what they find online, they can become passive in a complicated environment.

Third, there is a lack of Web literacy training for teachers (David, 2009). McGrail's (2005) meta-analysis of teachers' attitudes towards using technology in the classroom concluded that teachers are not resisting technology; rather they have not been adequately trained. Further, many teachers feel that they need to be supported within the classroom and by administration. However, Coiro and Dobler (2007) suggested that educators need to take a more active stance in learning, understanding, and teaching Web literacy in fairness to students.

Finally, it is a challenge to keep students engaged and motivated. Lankshear and Knobel (2003) use the term "attention economics" to discuss how the overabundance of information available on the Web creates a struggle for attention. The struggle for attention is not only between students and school, but between sites that compete with one other to gain a consumer's attention. Many students want to use and engage in the multimedia and with the graphics the Web has to offer (Considine, Horton, & Moorman, 2009). Considine et al. (2009) acknowledge students' adeptness with different literacies like graphics and multimedia. Therefore educators need to find a way to bridge the gap between students' preferences for oral and visual literacies and the important critical Web skills.

Implications.

In order to develop Web literacy, educators need to give it a much greater focus, and should teach it at the elementary, middle, and high school levels. Based on the

theoretical and conceptual frameworks and previous research, three main implications for instruction and practice can be identified: 1) Web literacy must take into consideration students' practices and beliefs; 2) Educators need to accept that the nature of the Web is complicated and demands a complex set of skills separate from traditional print text; and, 3) Web literacy must become a regular part of school curriculum.

First, teaching Web literacy means there has to be a focus on the students' practices and beliefs. Gee's (2003) socio-cultural theory suggests that students participate within various Discourses as they become part of a community of practice. While many studies show that students lack the skills to be considered Web literate or to critically navigate the Web, students already participate on the Web in their private lives and have developed confidence in their abilities to navigate and use the Web. It is important to acknowledge what students like to use on the Web in order for them to find relevance in learning Web literacy skills. Research has shown repeatedly that students prefer to use search engines such as Google, or websites such as *Wikipedia*, for searching and locating information. The very nature of the Web is collaborative and students engage in a collaborative manner on the Web outside of school. Accordingly, it is necessary to teach critical literacy skills in a collaborative environment. Badke (2009) submitted that sites such as *Wikipedia* are only slightly less reliable than those considered authoritative like Britannica Online. Despite the potential reliability issues, it may be more beneficial to teach students to use *Wikipedia* than to direct them to sites in which they can be more passive. Further, students need to be at the centre of their learning and should have choice within the topic and time to explore the Web independently (Considine et al., 2009; Kuiper et al., 2009).

Second, learning on the Web should be viewed as a new literacy, one that requires a more complex set of skills than traditional print text. The very nature of the Web does not demand that information be centred on one authoritative source. For educators it means that explicit instruction and structural support is needed to help students become more critically engaged when searching and locating information on the Web (Friedman & Heafner, 2007; Kuiper & Volman, 2009; Kuiper et al., 2009; MacGregor & Lou, 2006). Though some educators may feel they lack adequate knowledge about and skills in using technology, educators are the experts in teaching critical thinking and students learn best by participating in a community in which they learn from an expert (Gee, 2003; Kuiper & Volman, 2009). Friedman and Heafner (2007) state that:

> Students have to be trained to think independently before the benefits of inquiry learning [on the Web] can be maximized. Even though this approach [inquiry learning on the Web] can offer instruction that is more visually appealing, interactive, and engaging, it cannot take students' learning to a higher cognitive level without teacher scaffolding. (p. 209)

Several studies have shown that explicit instruction and scaffolding on the Web should address the following: the use of key terms when searching, the ways that search engines retrieve results, the importance of providing background information on a topic, the necessity of having the topic focused and narrowed, and the benefit of providing time for reflection on their Web literacy practices in terms of success and failures (Coiro & Dobler, 2007; Friedman & Heafner, 2008; Henry, 2006; Kuiper & Volman, 2009; Kuiper et al., 2008; Lawless & Schrader, 2009).

Last, Web literacy needs to have a foundational role in curriculum. Web literacy should not be taught as a separate skill but rather an integrated skill in all subject areas. Teaching Web literacy should include developing units that integrate content with Web literacy skills (Heil, 2005; Kuiper et al, 2009). Web literacy units should be taught by having students gain content knowledge through using the Web; however the focus should be on the significance of Web literacy skills and how those skills can be transferred. Kuiper et al. (2009) argue that teaching the importance of Web literacy skills by producing a product with appropriate content knowledge can provide more relevance to students' lives than teaching Web literacy skills in isolation.

Goals for my Project

Kuiper and Volman (2009) made a plea in their article for future educators not to use the Web solely as an educational tool, but rather as a tool to master both critically and skilfully. Further, they asked future educators and researchers to examine the following question: "How can students be taught Web literacy embedded in subject domains (p. 263)?"

I addressed these concerns by creating a resource that incorporates Web literacy instruction inside the content area curriculum. Based on the research and implications for practise, the goal was to create a unit plan in which Web literacy skills are integrated into the content areas. Though few studies regarding students' abilities to transfer Web literacy skills across the curriculum have been conducted, I wanted to start to close the gap by incorporating students' practices and beliefs into a unit plan that focused on the importance of Web literacy skills and the gaining of content knowledge.

It is with every intention that this unit plan can be changed and modified to fit various grades and content areas. For the purpose of this project the unit plan focuses on Grade 8 level students and combines Social Studies and English content areas to demonstrate how students can use Web literacy skills across the curriculum.

Chapter 3

Teaching Web Literacy Unit Plan

Subject: English and Social Studies
Grade: 8
Total Time: 10 class periods

Overview

Research has shown that while many adolescents spend a lot of time using the Web, they lack the necessary skills to be considered Web literate. This unit is designed to help students develop the critical literacy skills needed to search, read, and evaluate sources on the Web.

This unit plan has been created to help teachers across the content areas implement Web literacy skills into their practice. Although this unit plan uses Language Arts with Social Studies, other content area teachers could modify the Social Studies section to fit their curriculum. The purpose of this resource is to help students develop and transfer their Web literacy skills in order to meet their needs in all aspects of life.

Featured Resources

PPER Checklist (Plan Predict Evaluate Reflect) – This resource will help students determine the reliability and usefulness of sites found online.

My Website Resources – This sheet accompanies the checklist so students can keep a record of site information while searching

Theory to Practice

Listed below are a few samples of the literature that would support this unit plan:

Coiro, J., & Dobler, E. (2007). Exploring the online reading comprehension strategies used by sixth-grade skilled readers to search for and locate information on the internet. *Reading Research Quarterly, 42*(2), 214-257.

> This study examined the skills that good online readers use to search and locate information on the Web. Skills that the authors observed were more complex versions of offline reading and included the following: prior knowledge (of topic, printed informational text structure, informational website structure, and Web based search engines); inferential reasoning (including text structure, context, matching skills, an increased amount of prediction, and hypertext reasoning); and, rapid self-regulated reading processes (such as goal setting, rereading, monitoring,

comprehension repairs, and physical reading actions). The recursive pattern of self-regulated reading which the readers displayed when searching for information was plan, predict, monitor and evaluate.

Fabos, B. (2009). The price of information: Critical literacy, education, and today's Internet. In J. Coiro, M. Knobel, C. Lanshear, & D. Leu (Eds.), *Handbook of research on new literacies* (pp. 839-870). New York: Routledge.

The author suggests three steps to consider when teaching for critical Web literacy: 1) building an ideological framework; 2) investigating one issue; and, 3) understanding the political economy of Information. Further, Fabos advocates for using sites such as *Wikipedia* because it "is an excellence example of how a nonprofit information resource handles information […] and offers diverse coverage […] that is committed to disseminating many, often competing, views" (p. 865).

Henry, L.A. (2006). SEARCHing for an answer: The critical role of new literacies while reading on the Internet. *The Reading Teacher*, *59*(7), 614-627.

The author suggests using a framework for teaching Web literacy skills that follows the acronym SEARCH: Set a purpose for searching, Employ effective search strategies, Analyze search-engine results, Read critically and synthesize information, Cite your sources, How successful was your search? The framework aligns with research suggesting that students need to have structural support and be taught how to apply critical thinking skills. A key component to this framework is the reflective aspect. Students are prompted to record the successfulness of their search for information was and to examine the keywords they used and sites they came across that aided in their success.

Kuiper, E., Volman, M., & Terwel, J. (2009). Developing web literacy in collaborative inquiry activities. *Computers & Education, 52,* 668-680.

The authors propose that Web literacy is "the ability to handle the Web critically" (p. 669). They include three skills in their definition of Web literacy: Web searching skills, which include using appropriate key words, locating relevant information, and knowing different ways to locate information; Web reading skills, which is the ability to interpret the results of search engines (such as Google), understanding and using hypertext, and knowing which information to choose and which to disregard; and, Web evaluating skills such as assessing the reliability and validity of sources and relating text images to various sites.

Prescribed Learning Outcomes

This unit plan addresses several of the British Columbia's Ministry of Education's Prescribed Learning Outcomes (PLO's) for the English 8 curriculum ("English language arts", 2007) and Social Studies 8 curriculum ("Social studies", 1997). The PLO's listed

below are not exhaustive, but have been selected because they are most closely tied to teaching Web literacy skills.

A complete list of all the PLO's for each grade and each subject area can be found at: http://www.bced.gov.bc.ca/irp/plo.php

English 8

- A1 interact and collaborate in pairs and groups
- A4 select and use a range of strategies to interact and collaborate with others in pairs and groups
- B1 read, both collaboratively and independently, to comprehend a variety of literary texts
- B5 before reading and viewing, select and use a range of strategies to anticipate content and construct meaning
- B6 during reading and viewing, select and use a range of strategies
- B7 after reading and viewing, select and use a range of strategies to extend and confirm meaning
- B9 interpret and analyse ideas and information from texts
- C4 create thoughtful representations that communicate ideas and information

Social Studies 8 (Applications of Social Studies)

- identify and clarify a problem, an issue, or an inquiry
- gather and organize a body of information from primary and secondary print and non-print sources, including electronic sources
- interpret and evaluate a variety of primary and secondary sources
- co-operatively plan and implement a course of action that addresses the problem, issue, or inquiry initially identified

Resources

Materials/Technology

- Computers with Internet access; projector, overhead or board for class brainstorming

Printouts

- Exploring and Evaluating the BBC Website
- Canadian Culture Assignment
- Adding to *Wikipedia*: Culture in Canada
- PPER Checklist
- Website Resource Chart
- Fact and Fiction: Learning about the Middle Ages through King Arthur and Robin Hood
- Fact and Fiction Rubric

Websites

- BBC History – www.bbc.co.uk/history
- *Globe and Mail* (article *Canadian Culture: A category?*) - http://www.theglobeandmail.com/archives/article801204.ece
- *Wikipedia* – www.wikipedia.com (Culture in Canada, Robin Hood, King Arthur)
- Google Docs – https://docs.google.com

Preparation

1. Students should already have background knowledge in textbook and informational text structure, as well as how to make inferences when reading. If you believe that your students struggle with these skills try to do a couple of reading activities that include understanding text structure and making predictions prior to teaching this unit.
2. This unit is intended to teach Web literacy skills along with content area knowledge. Familiarize yourself with the Web literacy skills and prepare to discuss them with your students. It is important to share with your students the significance of learning Web literacy skills. Emphasize that these skills are intended to be used across the curriculum areas as well as outside of school.
3. This specific unit is designed to be incorporated into the last half of Middle Ages content in Social Studies 8. Prior knowledge of the Middle Ages in terms of society and culture, politics and law, economy and technology, and environment is necessary.
4. This unit requires the use of a computer lab for every session. Make the appropriate arrangements to have access to a lab for this time.
5. Familiarize yourself with the various websites intended for use. Make sure that the sites listed are still functional and that the content is appropriate for your classroom and curriculum. You may want to bookmark the sites for quick and easy access once in the lab with your students.
6. Know how to use Google Docs. Google Docs has a series of short lecture videos on using the various features. The assignments provided to the students will allow them to use any aspect of Google Docs to demonstrate their learning. Note that some browsers may not support the draw function in Google Docs and you will be prompted to download the Chrome software. It is free and takes 2 minutes to complete. Check with your librarian, administration, or school technician to verify that it is OK to do this.
7. Depending on your school equipment and the nature of your class, you may want to print out copies of the *Globe and Mail* article, create an overhead, or have it set up on an LCD projector rather than have students individually pull it up online.
8. Each student will need one copy of each assignment hand out listed in the printed materials section, and two copies of the PPER checklist and Web Resource Chart.

You can always have students create their own Website Resource Chart on Google Docs using the spreadsheet option as opposed to giving them a paper copy.

Instructional Plan

Overall Student Objectives

1. Students will be able to make a plan for searching, including how to find key terms to use when searching.
2. Students will be able to understand the function of search engines and how to use search engines to get desired results.
3. Students will be able to read sources to locate information appropriate for their research topic.
4. Students will develop and gain further knowledge on how to search, locate, read, and evaluate information on the Web.

Lesson #1

Time: 2 class periods

Lesson Objectives:

- To scaffold understanding of what a good information source is comprised of and where key site information can be found.
- Students will be able to locate key information for evaluating a website.
- Students will familiarize themselves with the structure of a website.
- Students will be able to discuss the significance of the Magna Carta.

Resources:

- Exploring and Evaluating the BBC Website

Instruction:

1. Ask students, "Who knows what it means to be a critical thinker?" and follow with, "why would being a critical thinker be an important skill to have?"
2. Advise the students that for the next few weeks their lessons are going to incorporate learning through the Web. Emphasize the important of critical thinking skills when using the Web because it affects everything they do both inside school and at home.
3. Let the students know that for the first class they are going to explore and evaluate the BBC History website while learning information about the Magna Carta.
4. Review any previous work you may have done on the Middle Ages that will set up their understanding of the Magna Carta.

5. Provide the students with the "Exploring and Evaluating the BBC Website" assignment sheet and go through the assignment instructions and questions.
6. Have the students work on the assignment individually or in pairs.
7. As a group discuss the answers.

Lesson #2

Time: 2 class periods

Lesson Objectives:

- Students will be able to find key terms for searching by using an online thesaurus.
- Students will familiarize themselves with using Google Docs.

Resources:

- Canadian Culture Assignment

Instruction:

1. For the first part of this lesson students should not be logged onto their computers. Remind students that one of the most important aspects of studying Social Studies is to examine both past and present culture.
2. Ask students, "What does the term culture mean?" Engage in a class brainstorm and record students' answers on an overhead projector or board where they can easily access all the terms.
3. Tell students to log onto their computers and Google "culture synonyms." Thesaurus.com should be the first link to appear. Direct students to that link.
4. Ask students to go through all the synonyms and find more terms to add to the brainstorm list.
5. Next direct the students to the *Globe and Mail* article "Canadian culture: A category?". The link is: http://www.theglobeandmail.com/archives/article801204.ece. Alternatively, you could print the article prior to class or display it on a projector. Have students read through the article. They can read as a class, in partners, or individually.
6. Once the students have read the article ask them, "What did the author conclude was Canadian Culture?" They should be able to come up with, "There isn't just one; it's multicultural; it's regional; it's complex," but the author ultimately says at the end, "Canadian culture means a different thing to everyone. Maybe that's what it truly is; it's whatever you see it to be."
7. Distribute the Canadian Culture assignment sheet and go through the assignment with the students.
8. Demonstrate by using an LCD projector, or by taking control of the computer screens, the steps for getting onto Google Docs and creating a new drawing.

9. Have students go to Google Docs. They will have to create an account using an email address. Students can use any email they have previously set up or a school email address if that has been provided.
10. Once students have signed in ensure they chose to create a new drawing (if your school browser needs to download the Chrome software prompt them to do so).
11. Have students complete the assignment and 'share' their work with you via email. You will then be able to view and comment on their work. They will need your email address to add you.

Lesson #3

Time: 2 class periods

Lesson Objectives:

1. To have students locate credible information using the PPER checklist.
2. To have students reflect on the decisions they make when choosing a website.
3. To have students participate in the collaborative nature of the Web by thinking about what they could add to the *Wikipedia* entry "Culture in Canada."

Materials:

- Adding to *Wikipedia*: Culture of Canada
- PPER Checklist
- Web Resource Chart

Instruction:

1. Now that students have had time to think about what culture in Canada means to them, have them go to *Wikipedia* (www.wikipedia.org) and type in "Culture of Canada." They can also type "Culture of Canada" into Google and it should be the first link to appear.
2. Instruct the students to go through the article and see if any of their ideas from their 'What Canadian Culture Means to Me' is in the article.
3. They need to record the ideas that they had about Canadian culture that are represented in the article and those ideas that are not. They can do this activity on a scrap piece of paper or on an online document.
4. Tell students that out of their five ideas from the 'What Canadian Culture Means to Me,' they need to choose one idea that they would contribute to the article or that they could add more information on.
5. Provide students with the assignment handout and go through the directions.
6. Provide students with the PPER Checklist and Web Resource Chart and go through how to use it.

7. After students have completed the activity, have them write a brief reflection on those strategies that worked best for finding good sources and those strategies that did not work. Have students share their successful strategies with the class.

Lesson #4

Time: 4 class periods

Lesson Objectives:

- Students will be able to use the PPER checklist and Web resource chart to search, locate, and evaluate appropriate sources to contribute to the understanding and knowledge of Medieval literature.

Materials:

- Determining Fact from Fiction Assignment
- Fact from Fiction Rubric
- PPER Checklist
- Web Resource Chart

Instruction:

1. Ask the students if they know the stories of Robin Hood or King Arthur. Ask if there are any volunteers who want to tell the class what they know about the stories.
2. Watch the two video clips provided below to provide the students with further background information on Robin Hood and King Arthur:

    i. Robin Hood epic: Truth or Fiction (From BBC News)
    A 1:58 minute video that discusses whether there is truth behind the tales of Robin Hood and who he is.
    Link: http://news.bbc.co.uk/2/hi/entertainment/8657762.stm

    ii. Britain AD Episode 1 - King Arthur's Britain - Host Francis Pryor
    Watch 1:45 minutes of this documentary to give the students some background information on the legends of King Arthur and its historical debate.
    Start at the 8:00 minute mark and end at 9:45 minute mark.
    http://video.google.com/videoplay?docid=1674914830350674131#

3. Distribute the "Determining Fact from Fiction: Learning about the Middle Ages through King Arthur and Robin Hood" assignment. Go through the assignment with them.
4. Distribute another copy of the PPER Checklist and Web Resource sheets.
5. Have the students create a new presentation on Google Docs.
6. Remind the students that they need to share the assignment with you.

Extensions/Alternative Ideas

- An alternative idea to "Determining Fact from Fiction" assignment is to have students create a class Wiki site for the legends of Robin Hood or King Arthur. This activity would be quite beneficial for teaching students how to collectively use their knowledge. However, the teacher should be familiar with using Wiki sites and would need to provide structured guidelines on how to participate.
- A good extension activity for developing reading, writing, and representing skills would be to have students compose their own versions of medieval literature. They could either write their own Arthurian legend or make up their own story completely. They would have to incorporate their knowledge of the middle ages. It might be beneficial to provide a list of key terms they need to include. As well, they could be introduced to the background information and small excerpts of Chaucer's *The Canterbury Tales* for further examples of medieval literature.

Student Assessment

- The "Determining Fact and Fiction" assignment includes a marking rubric that assesses students' use of their Web literacy skills. Since this assignment can be done in groups it would be valuable to include a peer evaluation component as well as providing both a group and an individual mark.
- Reflection is a key component to understanding the purpose of using and transferring Web literacy skills. Students should write a summary about what new skills they learned to evaluate websites. Have students respond to the following: "Imagine you had to teach someone who has never used the Internet before how to find good and trust worthy sources. What recommendations and skills would you teach that person?"

Printouts

See the pages below for printouts/handouts for each lesson and assignment.

Exploring and Evaluating the BBC website

Web address: www.bbc.co.uk

Part I: Go to About the BBC, found at the bottom of the page, and answer the following questions:

1. What is the BBC?
2. What does it mean when they say they are a "public service broadcaster" (hint: how does the BBC get money)?
3. What is their advertising policy?
4. Would the information on this website be biased (provide only one side of an argument)? Explain.

Part II: Find the History section of the site.

1. Who is this site targeting?
2. Is this site appropriate for all ages? Explain.
3. Is this site current (hint: look for the copyright date at the bottom)?

Part III: Locate information on the Magna Carta. There are a few different locations on this site where you can find this information. Answer the following questions:

1. Where did you find information on the Magna Carta?
2. Who is Richard the Lionheart?
3. Who is King John?
4. Why was King John so disliked?
5. What is the Magna Carta?
6. Explain the story of King John and the Magna Carta?
7. How many copies of the Magna Carta were sent across England? How many copies survive today?
8. What language is the Magna Carta written in?
9. What would have been attached to the Magna Carta?
10. What is the significance of the Magna Carta for us today?

Part IV: Create a list of reasons why this would be a good website for information.

Canadian Culture Assignment

Introduction: You just read an article from the *Globe and Mail* called "Canadian Culture: A category?". The author, Sean Phipps, concludes that ,"Canadian culture means a different thing to everyone [...] it's whatever you see it to be." Your assignment is to create an online poster/drawing/graphic representation that has 5 things Canadian culture to means you.

Instructions:

1. Go to Google Docs (https://docs.google.com) and create an account. You need an email address in order to create an account.

2. After you have signed up, log-on and go to "create new" and select drawing.

3. Click untitled drawing and name your drawing: What Canadian Culture Means to Me

4. Brainstorm five different things that Canadian Culture means to you. This list can include anything Canadian from food, artists, beliefs, books, authors, vacation spots, recreation activities, ANYTHING! But it has to be 5 **different** things (as in you cannot name five different Canadian singers—but you can include one!).

5. Using the synonyms that were brainstormed for the word 'culture', you need to pair your 5 different ideas with a synonym.

6. Once you have decided on your five Canadian things and paired them with a synonym, you need to locate five images to go with your five ideas.

   To Upload Pictures:

   i. Click insert
   ii. Click image
   iii. Click Google Image Search
   iv. Type in what you are looking for (do not forget when you select an image to copy the URL to site the source where you got the image from)

7. Create your poster/drawing/graphic representation with your images and label each image.

8. Share your presentation with me by going to your Google Docs home.
    i. Click the box beside the assignment you are going to share (should be titled What Canadian Culture Means to Me).
    ii. Go to the far right hand column and click Sharing – Settings
    iii. Under Add People type my email address
    iv. Click Share

EXAMPLE:

What Canadian Culture Means to Me

Canadian Society is multicultural
Source: http://www.flickr.com/photos/wilderdom/1061879878/

Adding to *Wikipedia*: Culture of Canada

Introduction:

Now that you have thought about what Canadian culture means to you, you will read about what other people think or know of Canadian culture. Your assignment is to think about what new information you could add to the *Wikipedia* entry 'Culture of Canada.' Once you decide what you would add, you are going to locate two different sources that would help support the information you want to add.

Purpose of this assignment:

The purpose of this assignment is to get you thinking about how you can participate and add to the learning community on the Internet. A lot of people from all over the world use *Wikipedia*, so it is a good idea to think of information that other people would find interesting about Canadian culture. This assignment will also help you think about good websites that other people can trust for accurate information.

Instructions:

1. Look over the *Wikipedia* entry "Culture of Canada" and see if you can find any of **your ideas** of Canadian culture in the article.

2. You then need to pick one of your ideas of Canadian culture that you think should be added to the *Wikipedia* entry. If all your ideas are already in *Wikipedia*, then pick one idea from your list that you could add more information to.

3. Using the PPER checklist start to PLAN how you are going to search for sources that you can add to the website.

4. Start your search for good sources. Keep a record of the websites that you look through on your Web Resource Chart.

5. Once you have found two good sites, you are then going to create a new document in Google Docs.

6. Write a paragraph of information that you would like to add to the *Wikipedia* entry.

7. Underneath your paragraph you need to site your two sources that support your paragraph information. Your sources must look like this:

   SOURCES

   Title: MuchMusic
   Author/Publisher: Bell Media
   Purpose/Explanation of the site: *MuchMusic's* website claims that it is "Canada's No. 1 destination for music videos, live performances and interviews with today's hottest celebrities; plus music downloads, ringtones, artist profiles, concert listings & music countdown."
   Why I chose this site: I choose this source because it is put out by Canadian media and is part of a Canadian corporation. *MuchMusic* plays music from all over the world and focuses mostly on popular culture. It shows what young people in Canada like to listen to.

8. Your sources need to have a hyperlink (just like in *Wikipedia*)
   To create a hyperlink:
   i. Highlight the title of the website
   ii. Right click the mouse
   iii. Click link
   iv. Provide the website address that you want it to link to

9. Include two images that go with your information. Cite the sources of your pictures!

10. Finally at the bottom of your document answer the following question: What searching strategies worked best for finding good websites?

11. When you are finished your assignment you need to share it with me.

PPER CHECKLIST
For searching, locating and evaluating Web sources

PLAN: set a purpose for research	Key terms	
What is the purpose of my search? What information am I looking for? List questions or ideas in point form:		
PREDICT: which link to choose and where will it lead	YES	NO
Does the URL seem official or credible? (does it have a .com, org, .gov, .edu ending)		
Does the summary of the link match what I am looking for?		
EVALUATE: determine how credible, reliable, and usable the site is		
Does this site have information I need according to my plan?		
Can I read a paragraph and understand what I am reading?		
Does this site have an author or publisher that I can locate?		
Does the author or publisher have a purpose or agenda that may make the information bias?		
Is the information current?		
Does this site have a reference list or a bibliography?		
Is the information accurate? (do other sites say the same thing)		
REFLECT: Evaluate the relevance of my choice		
How successful was my search? What search strategies did I use?		

My Website Resources

Title	URL address	Author	Symbol used on Checklist	Can I use it?

Determining Fact from Fiction: Learning about the Middle Ages through King Arthur and Robin Hood

Introduction:

We know that literature is an important part of understanding culture. Even if literature is fictional, it can tell us a lot about the society in which it was written. During the Middle Ages they did not have television, radio or the Internet for entertainment. Ballads, poems, plays and short stories were all written and performed to entertain the masses. Some of the most popular stories today come from the Middle Ages. These stories include the legend of Robin Hood and the tales of King Arthur.

Purpose of Assignment:

The purpose of this assignment is to use the Internet to search, locate, and evaluate information on the legends of Robin Hood and King Arthur. As well, you will contribute to the debate regarding what is fact and what is fiction in these stories by creating an online project using Google Docs.

Instructions:

- You can choose to do this assignment by yourself, in partners, or in a group of 3.
- Choose whether you want to research the legends of Robin Hood **or** the tales of King Arthur.
- Go to *Wikipedia* (www.wikipedia.com) and read the Introduction **and** History portions of Robin Hood **or** King Arthur.
- Record the different arguments about whether the stories are fact or fiction.
- Using your website evaluation PPER checklist and Web resource chart search and locate six different sources, two of which must be multimedia, to support (*corroborate*) the different points of view that you read on *Wikipedia*.
- Create a project or presentation using Google Docs (https://docs.google.com)

Project Information Checklist

Your project must include the following information:

1. When were the original stories created? Who created them? What literary form was used? (i.e. story, poem, play)
    - Find two sources and create hypertext to this information
    - Include a brief explanation of the sources you choose (include title, author/publisher, and purpose of the site)
    - Include a link to a *primary source* (an original version of a story/poem from the Middle Ages from the original authors)
2. Are the stories fact or fiction? Are there different points of view?

- Find two sources and create hypertext that support the different view points
- Include a brief explanation of the sources you choose (include title, author/publisher, and purpose of the site)

3. What do these stories tell us about the Middle Ages? (i.e. what was society like? what were people concerned about? what did people believe in?)
    - Discuss two facts that the stories tell about the Middle Ages. Each fact should include a paragraph of information
    - Find two sources and create hyper links to support your information about the Middle Ages
    - Include a brief explanation of the sources you choose (include title, author/publisher, and purpose of the site)
    - Use an example from one of the stories (primary sources) for additional proof about how it reflects society and culture of the Middle Ages
4. You must find a total of six different sources to help you answer the questions above. Of the six sources that support the information you are presenting, two must be in the form of multimedia representation (images, audio clips, or video clips)

    Remember to include reference information (site address/title/author) and the reason for your choices

EXAMPLE:

#3. What do the stories of Robin Hood tell us about the Middle Ages?

Fact #1. There were actually many outlaws in the Middle Ages. People became outlaws because...(explain what was happening in the Middle Ages that would make someone an outlaw and why there would be stories about an outlaw who is a hero).

Sources to support my information:

- Source #1: http://www.lib.rochester.edu/camelot/rh/rhhome.htm
  Title: The Robin Hood Project, The University of Rochester
  Author: Collaboration of people from the University of Rochester
  Valerie B Johnson – project coordinator
  Purpose of the site: To create a collection of primary and secondary sources and in on the writings of Robin Hood.

- Source #2 : a website
  Title: The title of the website
  Author/Publisher: could be one person or multiple people or an organization
  Purpose of the site: why was this site create, what are the authors' intentions

PROOF

An example of a piece of writing from *A Gest of Robyn Hode*
Written in the 15th Century by Jan van Doesbroch

A Gest of Robyn Hode

Lythe and listin, gentilmen,	*Attend*
That be of frebore blode;	*freeborn blood*
I shall you tel of a gode yeman,	
His name was Robyn Hode.	
Robyn was a prude outlaw,	*proud*
Whyles he walked on grounde:	
So curteyse an outlawe as he was one	
Was nevere non founde.	

Source: http://www.lib.rochester.edu/camelot/rh/rhhome.htm
Title: The Robin Hood Project, The University of Rochester

DETERMINING FACT FROM FICTION RUBRIC

	0-2	3-4	5-6
Key Information Followed the assignment instructions and have included all the information.	Missed some key information by not answering all the questions; or not supporting all the answers appropriately.	Answered all the questions listed and supported all the answers by providing appropriate hyperlinks to the sources.	Answered all the questions listed and included a lot of detail. Supported all answers by providing appropriate hyperlinks to the sources.
Supporting Evidence Have 6 different sources; including two multimedia (images, graphics, videos, audio clips etc.). Have used the PPER checklist and Web resource chart to track website credibility.	Have 4 or less sources. Some of the sources are not considered credible. Multimedia is not explained or does not support the topic well.	Have 5-6 different sources; most are credible and useful according to the PPER checklist. Multimedia sources support the arguments.	Have 6 or more different sources; all are credible and useful according to the PPER checklist. Multimedia sources are well thought out and strongly support the arguments.
Personal Contribution Have made 2 connections from the stories to Medieval culture.	Have a minimal understanding of Medieval culture. Little to no connections made between primary and secondary sources.	Have demonstrated a good understanding of Medieval culture. Able to make some connections between primary and secondary sources.	Have demonstrated a strong understanding of Medieval culture by making solid connects between primary and secondary sources.
Multimedia Have 2 multimedia sources such as images, video clips, audio clips, graphics that support the topic.	Have less than 2 multimedia sources. Sources are not explained or do not support the arguments.	Have 2 multimedia sources. The sources are explained, sited, and support the arguments.	Have 2 or more multimedia sources. The sources are well explained, properly sited, and support the arguments.
Overall Presentation Presentation is informative, edited, and graphically pleasing.	Presentation is minimal. Missing key information and not all expectations have been met. Little to no editing has been done. Sources not sited properly.	Presentation is good. Met almost all to all of the expectations. Minor grammatical or spelling errors. All sources are properly sited.	Presentation is excellent! Exceeded expectations. Few to no spelling or grammatical errors. All sources are properly sited.

TOTAL: _____/30

Chapter 4

Reflection

Process in Selecting the Topic

My interest in teaching literacy skills grew during my practicum. At the time, I did not know how passionate I would feel about teaching Web literacy. I was a student teacher, and all of the things that were happening in the schools were new, surprising, and at times shocking. I believe the hardest transition for a new teacher is going from a theory-based pre-service program into a practicum environment. The ideals of what good instruction and learning should look like seemed to be much more difficult to enact once inside a classroom.

I was given two Grade 8 Social Studies classes for the entire four months of my practicum. Although I had a lot of great ideas for assignments and projects, I quickly realized how much scaffolding the students needed just to get through their textbooks. Many students did not have the reading comprehension skills to independently locate and analyze information from their books. Luckily, I had taken a great content area and literacy course during my pre-service program. This course saved my lesson plans and it pushed me to make sure that I was scaffolding literacy skill development while teaching course content.

As my practicum progressed, I started to become more comfortable with expanding lessons outside of the classroom. Knowing that many students are motivated by the use of computers, I planned my last unit around students being able to research and collect their own information on the Web. The end goal was to have each group present and teach the rest of the class about their research topic. The students were given

a week in the computer lab to find information on their topic and put together a presentation. I had initially made the assumption, which turned out to be wrong, that because most of the students used computers at home every day, they would know how to find information on the Internet. Over the course of the week I spent a great amount of time trying to help students search, locate, read, and evaluate information on the Web.

By the middle of the week I had the school librarian pull books on the various topics and presented the books to my students as an alternative option to the Web. Surprisingly, many groups choose to look through the books as they too were exhausted from pointlessly searching and not finding great information. The course of action I took was not necessarily the best way to deal with issue. Instead of instructing my students on how to use the Web I just tried to avoid it. I learned that my students did not know how to use the Web very well and that I did not know how to instruct them to get desired results. It was this particular experience that made me realize that I wanted to know how to teach students to use the Web effectively. If I was going to continue to do research projects using the Web I had to be sure that my students knew how to search, locate and evaluate information.

Researching My Topic

I chose to enter into a Master's program in literacy immediately following the end of practicum because of the careful nudging of Dr. Begoray and because I thought that I would presumably have some free time during my first year teaching on-call as a result of the lack of planning and marking. I was uncertain if my lack of teaching experience would hinder my ability to participate in the program, but my drive to keep learning overshadowed any doubts.

During my first summer in the program, which turned out to be a gruelling learning curve on how to read and comprehend complex theories, the seeds were planted regarding accumulating literature for my final project. It was a constant struggle reading theories and studies of best classroom practices when my practicum experience had made me feel that there was a large gap between theory and practice. I noticed that I had become cynical about those instructional practices that would work and those that appeared too idealistic. I constantly thought of the classroom composition of my two Grade 8 practicum classes and how many of those students did not have the basic literacy skills required to independently learn content. I had become sceptical based on the short teaching experience of my practicum. I wanted to stay with the traditional teaching methods that I grew up with because I felt that so many students were lacking basic skills.

At the end of my first year working on-call and the end of my first year in the Master of Education program, I secured a term-certain contract. I was thrilled to have my own Social Studies classroom, teaching Grades 10 through 12, where I could try to incorporate some of the research ideas into my lessons. I knew that the students who entered my class were often unprepared and it was the traditional teaching methods that left them that way. Although I thought that traditional teaching methods would allow me to survive, I wanted to do better. My experience during my term-certain contract renewed my faith in striving for idealistic and new teaching practices as I observed how the students were receptive to many new activities.

I entered the second year of my graduate program with a new positive outlook on theory to practice. Of course this new attitude made researching for my literature review

much more interesting. In the remainder of this section I discuss some of the readings that inspired the way I thought about teaching Web literacy and the process of writing the different sections of my literature review.

Research that inspired my thoughts on Web literacy.

The first thing that I found through the research process was how little researchers actually knew about teaching online reading comprehension skills. I knew that the field of Web literacy was relatively new compared to teaching print literacy, but realized that the main issue in teaching Web literacy was the complexity of the topic. I was initially concerned that I would not find enough studies to in order to make any decisions about good teaching practices.

However, I learned that researchers in the field of Web literacy have spent a lot of time trying to demonstrate that online literacy skills are different than offline literacy skills. The study by Coiro and Dobler (2007) appears to lead the field in this area of thought. However, the pedagogy to instruct the specific skills needed to be a good online reader is uncertain. From the research by Coiro and Dobler, I learned that traditional literacy skills still need to be taught as a base. As well, to be a good reader on the Web one must be able to utilize multiple literacy skills and perform multiple tasks simultaneously. These fundamental ideas affected the outcome of my unit plan.

The second reading that I found crucial to my understanding of Web literacy was Lankshear and Knobel's (2007) *A New Literacies Sampler*. Lankshear and Knobel theorize about what is considered 'new' and the competing mindsets that surround Web literacy. Their ideas resulted in a complete shift in my own thinking. Web literacy skills cannot be seen or taught in view of traditional education. Lankshear and Knobel argue

that using the Web for researching or learning to evaluate sources critically is not new but rather a traditional way of learning, just on a different and faster medium. The key to understanding 'new' literacies is to understand the collaborative nature of learning. Moving away from the authority-centered learning process to one in which everyone can engage, participate and contribute. These ideas aligned perfectly with the purpose and function of the Web, which is meant to be social and collaborative (and are why most students love and are motivated by the Web). Further, I titled my project "Teaching Web Literacy in the Age of New Literacies" to reflect the understanding that teaching Web literacy should not be framed in traditional practices but rather by collaborative learning.

Finally, I enjoyed reading articles that discussed the economy of search engines (Fabos, 2009; Lankshear & Knobel, 2003). I found this part of the literature made a lot of sense in terms of searching on the Internet. How search engines function was an aspect of using the Web that I took for granted. I knew that search engines worked based on key terms and that searches were not completely organic due to the inputs on the algorithms that are used, but I do not remember at what point in my academic career I learned this information. As discussed in the literature review, some studies have indicated that most students do not know how search engines worked. I am still unsure as to how to teach young adolescents about the economy of search engines through content. But as part of learning to be critical thinkers, it is an important issue to address.

Writing the Literature Review

Once the research was completed, I was excited to start writing. In the past, although I have found writing easier than research, I have not enjoyed it as much as researching. My attitude reflects my enjoyment of learning and my reluctance of writing

a paper demonstrating my understanding for one person to determine how well I understand a concept. With this project, however, I was not only writing to help myself, but to hopefully contribute to the field of education. I was surprised when I realized that having a wider audience became a motivating factor.

However, I did find the writing process, at times, long and tedious. The theoretical framework and perspectives were the most challenging parts to write for a few reasons. The first reason was because it was difficult to decide what framework and perspectives to use as there are many different ways that Web literacy can be approached and as I went through Coiro, Knobel, Lankshear, and Leu's (2009) *Handbook of Research on New Literacies,* I felt overwhelmed with choices. For instance, I needed to pick a theoretical framework that focused most on Web literacy skill development. I also needed to include various concepts that would help frame the understanding of instructing Web literacy. The second reason I found this section challenging was because theories and perspectives can be complex. It is easy to get lost in the depth of explanations. I found that if I went too far discussing a perspective that I started to lose where I was going. The third reason was that even though I felt that I understood the theories or perspectives, the complexity of them can made it difficult to write and explain clearly.

Also of interest were the amount of changes I made to the structure and layout of the literature review. As the writing took place over a long period of time (a few months), it was challenging to transition all the sections smoothly so that my pattern of thought could be easily followed. I initially wanted the theoretical framework at the end of the literature review, thinking that it would aide in framing the concept of the resource.

However, as I began writing the other sections I realized that an understanding of the framework was needed in order to understand some of the studies and research that had been done. As well, I moved around the section on "Students' Beliefs" a few times as their central role in Web literacy leads to both issues and implication for practice and strongly correlates with a lot of the successes and failures in the studies that have been done.

The Unit Plan

When I first decided that I was going to focus my project on teaching Web literacy I knew that I wanted to develop a unit plan. As this program is part of the Curriculum and Instruction Department, I was attracted to the idea of developing curriculum. It took me some time to determine how I was going to create the resource.

In the summer going into the second year of my graduate program, our cohort was asked to do a short presentation on our project ideas and include three key readings. I came across research conducted by Kuiper et al. (2008, 2009) that I decided would guide my thinking on teaching Web literacy. Their research was set up to focus on how well students could transfer Web literacy skills to new tasks. Though the results of the research were mixed, what was clear was the need for a unit on Web literacy to be incorporated into the pre-existing curriculum, where content was taught simultaneously with Web literacy. Further, students needed to see the value in learning Web literacy skills and therefore the skills could not be taught in isolation. The research conducted by Kuiper et al. (2008, 2009) made a lot of sense to me because I had already become an advocate for instructing literacy skills while teaching content. I knew after reading this

study that I was going to design a Web literacy unit that incorporated Social Studies and English content.

However, I did not anticipate how difficult it would be to create a unit plan that focused on Web literacy skills. I should have known since the research contained more theoretical and conceptual understandings of Web literacy, including the argument that Web literacy skills were different than print literacy skills. It took a few episodes of frustration and ranting phone calls to teacher friends to realize that the reason teaching Web literacy seems so difficult is because Web literacy skills must be used quickly and in conjunction with one another. The study by Coiro and Dobler (2007) revealed that good online readers are doing many things at once. It is difficult to break down searching, locating, reading and evaluating as separate skills online.

I spent much time trying to think of how I could scaffold Web literacy skills. After devoting considerable time to drafting ideas, I concluded that I could not break down each Web literacy skill individually. However, I also remembered that a reoccurring pattern in the literature described reflection as a key component in students developing the cognitive skills required to learn critical skills. Therefore, the unit plan focuses on scaffolding the skills students need by having them reflect on the processes for finding and evaluating sources on the Internet.

The assessment portion of the resource was difficult because according to the research, students are not used to being evaluated based on their online skills. Assessment is still focused on traditional literacy skills, and even more on fact recall. I believe at this point the best type of assessment methods for online learning is through

reflection. Therefore, I included the requirement that students write a small piece on the type of advice they would give to help someone search and evaluate on the Web.

I believe that the resource is a beginning or an attempt at scaffolding for teaching Web literacy skills. Indeed, teaching one unit using Web literacy is not enough for students to maintain and transfer Web literacy practice. Web literacy practice needs to be integrated into all the subject areas starting at an earlier age.

The unit plan is intended to be an example of how educators can incorporate Web literacy skills into their content areas without taking too much time away from all the other demands their course may have. I hope that educators of any grade, in any content area, will see the value of using this unit plan. The unit plan provides enough structure that it could be modified to fit the needs of various classrooms. Teachers would only need to spend the time to find a few good websites that meet the curricular needs of their course. As well, they can modify the difficulty of the assignment or number of criteria required based on the grade level of their students.

Future Plans

In completing this project I hope to do a few things in the future. First, I would like to try to teach the unit in my own classroom. As I do not currently have a classroom it would be beneficial if some colleagues would be willing to try the unit and provide me with some feedback. I would like to continue to work on creating more lesson plans the incorporate Web literacy strategies with content area learning so it can become a more regular part of curriculum.

Second, I would like to get involved in the district literacy committee and work on professional development with teaching and implementing Web literacy skills. I

would like to specifically target the middle school teachers, though I would be willing to work with all age groups as I believe Web literacy needs to become a regular part of education at all ages. Once I am working at a school I also plan to get involved in professional development to offer instructional strategies for implementing Web literacy into the classrooms.

Third, I would like to gain further knowledge on whether the reflective process, and the long term multi-content area implementation of Web literacy, would affect students' abilities to the transfer of Web literacy skills from one topic to another and enhance their understanding of the Web. This exploration could be done either as participating as a teacher on a research team or by taking the path toward my own research. Regardless, I would like to continue to contribute to research in this field as I want to strongly advocate for the importance of Web literacy skills in school.

Conclusion

Overall the experience of the program, along with the completion of this project, has positioned me in an interesting place early in my teaching career. I am excited to try out each best practice that I have learned. I have also enjoyed learning the research process on the academic side of education and would like to eventually be more involved in advocating for curriculum change. I hope that this project is able to make a small contribution to teaching Web literacy, even if it is just through my own promotion in my classroom, school, or district. I believe that the field of Web literacy will only continue to grow as it has become an important factor in the lives of our students and of society as a whole. It is in the best interests of our education system to implement Web literacy as part of our regular curriculum.

References

Alvermann, D. (2008). Why bother theorizing adolescents' online literacies for classroom practice and research? *Journal of Adolescent & Adult Literacy, 52*(1), 8-19.

Badke, W. (2009). Stepping beyond. *Educational Leadership, 66*(6), 54-58.

Baildon, R., & Baildon, M. (2008). Guiding independence: Developing a research tool to support student decision making in selecting online information sources. *The Reading Teacher, 61*(8), 636-647. doi:10.1598/RT.61.8.5

Bell, P. (2000). Scientific arguments as learning artifacts: Designing for learning from the web with KIE. *International Journal of Science Education, 22*(8), 797-817.

Braasch, J. L. G., Lawless K. A., Goldman, S. R., Manning, F. H., Gomez, K.W., & MacLeod, S. M. (2009). Evaluating search results: An empirical analysis of middle school students' use of source attributes to select useful sources. *Journal of Educational Computing Research, 41*(1), 63-82.

British Columbia Ministry of Education (1997). Social studies 8 to 10. *Integrated Resource Package*. Retrieved from http://www.bced.gov.bc.ca/irp/pdfs/social_studies/1997ss810.pdf

British Columbia Ministry of Education (2007). English language arts grade 8. *Integrated resource package* (GBG 053). Retrieved from http://www.bced.gov.bc.ca/irp/pdfs/english_language_arts/2007ela_812_8.pdf

Caskey, M. M., & Anfara, V. A., Jr. (2007). *Research summary: Young adolescents' developmental characteristics.* Retrieved from http://www.nmsa.org/Research/ResearchSummaries/DevelopmentalCharacteristics/tabid/1414/Defaul.aspx

Christenbury, L. (2009). It's not as simple as it seems: Doing honest academic work in an age of point and click. *Knowledge Quest, 37*(3), 16-23.

Coiro, J. (2003). Exploring literacy on the Internet: Reading comprehension on the Internet: Expanding our understanding of reading comprehension to encompass new literacies. *The Reading Teacher*, *56*(5), 458-463.

Coiro, J., & Dobler, E. (2007). Exploring the online reading comprehension strategies used by sixth-grade skilled readers to search for and locate information on the internet. *Reading Research Quarterly, 42*(2), 214-257.

Coiro, J., Knobel, M., Lankshear, C., & Leu, D. (2009). Central issues in new literacies and new literacies research. In J. Coiro, M. Knobel, C. Lankshear, & D. Leu (Eds.), *Handbook of research on new literacies* (pp. 1-21). New York: Routledge.

Considine, D., Horton, J., & Moorman, G. (2009). Teaching and reading the millennial generation through media literacy. *Journal of Adolescent & Adult Literacy, 52*(6), 471-481. doi: 10.1598/JAAL.52.6.2

Cromley, J. G., & Azevedo, R (2009). Locating information within extended hypermedia. *Educational Technology and Research Development, 57*(3), 287–313. doi: 10.1007/s11423-008-9106-5

Damico, J., & Baildon, M. (2007). Examining ways readers engage with websites during think-aloud sessions. *Journal of Adolescent and Adult Literacy*, *51*(3), 254-263. doi: 10.1598/JAAL.51.3.5

Damico, J., Baildon, M., Exter, M., & Guo, S.J. (2009). Where we read from matters: Disciplinary literacy in a ninth-grade social studies classroom. *Journal of Adolescent & Adult Literacy, 53*(4), 325-335. doi: 10.1598/JAAL.53.4.6

David, J. (2009). Teaching media literacy. *Educational Leadership*, *66*(6), 84-86.

Fabos, B. (2009). The price of information: Critical literacy, education, and today's Internet. In J. Coiro, M. Knobel, C. Lanshear, & D. Leu (Eds.), *Handbook of research on new literacies* (pp. 839-870). New York: Routledge.

Friedman, A. M., & Heafner, T. L. (2007). You think for me, so I don't have to. *Contemporary Issues in Technology and Teacher Education, 7*(3), 199-216.

Friedman, A. M., & Heafner, T. L. (2008). Finding and contextualizing resources: A digital literacy's tools impact in ninth-grade world history. *The Clearing House*, *82*(2), 82-86.

Gee, J. P. (1992). Socio-cultural approaches to literacy (literacies). *Annual Review of Applied Linguistics, 12,* 31-48.

Gee, J. P. (2002). Discourse and sociocultural studies in reading. In M. L. Kamil, P. B. Mosenthan, P. D. Pearson, & R. Barr (Eds.), *Methods of literacy research: The methodology chapters from the handbook of reading research* (Volume III, pp. 118-131). Mahwah, NJ: Lawrence Erlbaum Associates Inc.

Gee, J. P. (2003). *What video games have to teach us about learning and literacy*. New York:Palgrave/Macmillan.

Greenhow, C., Robelia, B., & Hughes, J. E. (2009). Learning, teaching, and scholarship in a digital age. *Educational Researcher, 38*(4), 246-259.

Heil, D. (2005). The Internet and student research: Teaching critical evaluation skills. *Teacher Librarian, 33*(2), 26-29.

Henry, L. (2006). SEARCHing for an answer: The critical role of new literacies while reading on the Internet. *The Reading Teacher, 59* (7), 614-627.

Howard, R. M., & Davis, L. J. (2009). Plagiarism in the internet age. *Educational Leadership, 66*(6), 64-67.

Kuiper, E., & Volman, M. (2009). The web as a source of information for students in K-12 education. In J. Coiro, M. Knobel, C. Lanshear, & D. Leu (Eds.), *Handbook of research on new literacies* (pp. 241-266). New York: Routledge.

Kuiper, E., Volman, M., & Terwel, J. (2008). Students' use of web literacy skills and strategies: Searching, reading and evaluating web information. *Information Research: An International Electronic Journal, 13*(3), paper 351. Retrieved from http://informationr.net/ir/13-3/paper351.html.

Kuiper, E., Volman, M., & Terwel, J. (2009). Developing web literacy in collaborative inquiry activities. *Computers & Education, 52,* 668-680.

Lamb, A., & Johnson, L. (2009). The digital dog ate my notes: Tools and strategies for 21st Century Research Projects. *Teacher Librarian, 37*(2), 77-88.

Lankshear, C., & Knobel, M. (2003). *New literacies: Changing knowledge and classroom learning*. Buckingham, PA: Open University Press.

Lankshear, C., & Knobel, M. (2007). Sampling "the new" in new literacies. In M. Knobel & C. Lanksher (Eds.), *A new literacies sampler* (pp. 1-24). New York: Peter Lang Publishing.

Lawless, K. A, & Schrader, P. G.(2009). Where do we go now? Understanding research on navigation in complex digital environments. In J. Coiro, M. Knobel, C. Lanshear, & D. Leu (Eds.), *Handbook of research on new literacies* (pp. 267-288). New York: Routledge.

Lee, J. & Spires, H. (2009). What students think about technology and academic

engagement in school: Implications for middle grades teaching and learning. *AACE Journal, 17*(2), 61-81.

MacGregor, S. K., & Lou, Y. (2004). Web-based learning: How task scaffolding and website design support knowledge acquisition. *Journal of Research on Technology in Education, 37*(2), 161-175.

McGrail, E. (2005). Teachers, technology, and change: English teachers' perspectives. *Journal of Technology and Teacher Education, 13*(1), 5-24.

New London Group (1996). A pedagogy of multiple literacies: Designing social futures. *Harvard Review, 66*(1), 60-92.

Perry, T. B. (2006). Multiple literacies and middle school students'. *Theory into Practice, 45*(4), 328-336.

Radicliffe, R., Caverly, D., Hand, J., & Franke, D. (2008). Improving reading in a middle school science classroom. *Journal of Adolescent & Adult Literacy, 51*(5), 398-408.

Reece, T. (2009). 7 skills computer skills you'll need for success. *Career World*, October 2009, 20-23.

Spires, H. A., Lee, J. K., & Turner, K. (2008). Having our say: Middle grade student perspectives on school, technologies, and academic engagement. *Journal of Research on Technology in Education, 40*(4), 497-515.

Stevens, L. P. (2002). Making the road by walking: The transition from content area literacy to adolescent literacy. *Reading Research and Instruction, 41*(3), 267-278.

Sutherland-Smith, W. (2002). Weaving the literacy web: Changes in reading from page to screen. *The Reading Teacher, 55*(7), 662-669.

Vacca, R. T, Vacca, J. L., & Begoray, D. (2005). *Content area reading: Literacy and learning across the curriculum*. Toronto: Pearson Education Canada.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Wyatt-Smith, C., & Elkins, J. (2009). Multimodal reading and comprehension in online environments. In J. Coiro, M. Knobel, C. Lanshear, & D. Leu (Eds.), *Handbook of research on new literacies* (pp. 899-940). New York: Routledge.

Yore, L. D., Pimm. D., & Tuan, H. L. (2007). The literacy component of mathematical and scientific literacy. *International Journal of Science and Mathematics Education, 5,* 559-589.