For some reason, we make this assumption that you know kids these days don't need our help with technology but that's like assuming that because I was born when the car was already invented that I don't need to learn how to drive, right. They absolutely still need to learn how to use these things.

-Rosie, participant

University of Alberta

Examining Secondary School Teacher Understanding of Information Literacy

by

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Abstract

With many current initiatives to promote information literacy, it is necessary to assess the state of information literacy instruction in secondary school and the factors influencing information literacy. Teachers have the opportunity to instruct information literacy (IL) yet students enter post-secondary without adequate IL skills for success. This suggests that students are not acquiring these skills in secondary school either because they are not being receiving IL instruction or they are not being taught in such a way that they become a part of the students' skill set. This phenomenological study used semi-structured interviews with a purposeful sample of 8 participants who had experience teaching secondary (grades 7-12) language arts and/or social studies in Alberta. This study examines teacher understanding of information literacy and subsequent ILI in their classrooms. In explicating the collective data, a series of dominant themes emerged including a lack of familiarity with the term 'information literacy,' assumptions regarding student IL skill acquisition, and a series of influences on the teachers' ability to provide adequate ILI. The results suggest that there needs to be greater awareness of: information literacy (IL) as a concept, IL as a learning process; how IL can benefit teachers as well as students; and how IL can be implemented and supported within a classroom. This study has implications for library and information studies scholarship, as well as education scholarship, as it examines how information literacy is understood by those with the opportunity to instruct these valuable skill and processes within the established government-mandated curriculum.

Contents

Chapter One: Introduction

Information literacy (IL) is the ability to recognize an information need, identify potential resources to satisfy that information need, access and use the aforementioned information resources, and do so in an efficient and ethical manner (American Library Association, 1989). These fundamental skills support lifelong learning, in and out of a classroom, at all ages. The sophistication of skill required will vary depending on the information needs of the user but the necessity of these skills is beyond question. Given the importance of the skills and the benefit of IL skill acquisition, it is necessary to examine to what degree these skills are acquired by students during their education. However, examining student skill acquisition only elucidates one side of this multi-faceted story. Exploring information literacy understanding, and thus instruction, from the teacher's perspectives will provide the library and information studies and education fields with a more holistic picture of the state of IL within schools. With research and anecdotal evidence indicating that many students are not graduating from secondary school with these skills (Gross & Latham, 2007,2009; Julien & Barker, 2009), existing gaps in educational experiences need to be examined. Although it needs to be acknowledged that the responsibility to teach these skills does not rest solely on educators, the curricular expectations that these skills be taught and the reality that teachers spend a considerable amount of time with students during their formative years means that teachers should play a significant role in students' IL instruction. Formalized educational practices require students to either develop or already possess these valuable IL skills (Alberta Learning, 2000; Alberta Education,

2006, 2007). Expectations increase in sophistication and scope with the higher grades therefore the focus of this study is on secondary education where students are being prepared for further education or for the workplace. Complex tasks and challenging learning activities are expected to be integrated in the instruction to maximize student learning experiences with many opportunities for information literacy instruction (Alberta Learning, 2004). As such, secondary education is an excellent focus for a study of this scope with this specific thematic focus.

Study Purpose

The goal of this study is to examine how teachers with experience teaching grade seven to twelve English language arts and social studies understand and accommodate information literacy within their teaching situation in the province of Alberta. In terms of understanding and accommodation, the data collection targets how teachers define information literacy, how this definition fits within their understanding of literacy, and the extent of IL instruction within their content-based instruction and assessment practices. English language arts and social studies were selected to be the focus of this study because the Alberta Education (2000, 2006, 2007a, 2007b; Alberta Learning, 2004) curricula emphasize the importance of IL skills so it can be expected that IL is, to a degree, integrated in the courses by the teacher.

Education in Canada is a provincially-mandated responsibility and, within Alberta, the curriculum explicitly and implicitly requires the instruction and acquisition of information literacy skills (Alberta Education, 2000, 2006, 2007a, 2007b; Alberta Learning, 2004). Language Arts and Social Studies, as

individual disciplines, have historically required these skills to a greater extent than their math and science counterparts. Although it is expected that IL will be embedded in all courses, it is especially true of writing intensive disciplines such as language arts and social studies. Locating, accessing, and using information in an effective, efficient and ethical manner supports the critical and creative thought required to form ideas and opinions. Providing opportunities for students to develop the skills to support their thoughts or broaden their horizons, opening them up to the tools to explore their world and the information within it, gives them the opportunity to become sophisticated information agents. Enhanced information literacy skills enable students to become active, engaged, and informed citizens which is a primary goal of education within Alberta (Alberta Education, 1998).

Study Scope

Establishing firm boundaries for this study also allowed for the identification of clear themes and motifs in the data that speak to the language arts and social sciences context. Also, by limiting the study to grades seven to twelve (i.e., classed as 'secondary school' grades in Alberta), the classroom experiences were expected to be somewhat consistent in terms of the common issues encountered in working with adolescents. These issues include, for example, student cognitive abilities and maturity, the classroom structure, the academic expectations, and other issues consistent with these grade levels. Teacher education programs cluster secondary education students together to provide educational opportunities for those teaching that age group, in

recognition that the issues in these classrooms will be somewhat similar, but often vastly different, from the elementary teaching experience.

In examining the participants' teaching situations in similar contexts, this limit permitted the identification of trends that may be applicable to teaching this particular student population. Although each situation is unique and teachers will undoubtedly possess different perspectives regarding IL, the participant criteria sought to establish a common ground. The cognitive differences between individual students are difficult for teachers to mediate but it is assumed that teachers with average or standard classes will have similar enough experiences to allow for common trends. For this reason, instructors of exclusive special education or specialized alternative programs were not included in this study as their students generally require specialized attention and adapted programs which would require very different approaches to IL instruction. Within Alberta Education, there are varying strands of core courses at the high school level (e.g., academic strand, for students bound for university; remedial strand, for students who are not working at grade level); teachers who instructed those courses were welcome to participate as they teach the same material to a slightly different degree with a unique post-graduation focus. Although it would be interesting to limit future studies to either academic or remedial strands of these core courses to examine the differences, this study is introductory and provides a base upon which future studies may build.

Personal Motivation

During my own experience teaching these grade levels and subjects, from 2006 to 2009, I struggled to balance what I personally and professionally felt

were the priorities within the extensive objectives of the curriculum. Even in attempting to prioritize information literacy skills, I was unsure of how to help my students develop these skills. Through extensive professional development and personal investigation, I accumulated an array of strategies for IL instruction, yet these were clearly insufficient as my students still struggled. I endeavoured to balance other curricular objectives in conjunction with IL but found the balance technically difficult, time consuming, and emotionally draining. Upon returning to university for a Master's degree in Library and Information Studies in 2009, I found a body of literature that could have helped immensely with my approach to IL as a teacher, given my understanding of pedagogy. Library and Information Studies' courses and readings have instilled in me a deep appreciation of information literacy and its support for lifelong learning. In retrospect, a better understanding of IL (what it is, as a skills set and process, how to apply and teach it) would have vastly improved my teaching practice and would have improved learning experiences for my students. This hindsight discovery inspired me to investigate this issue through this thesis work. In conducting this study, I hoped to evaluate whether or not my experience was common for other teachers. Do other secondary teachers feel IL is as important as I do? What influences their IL instruction (or lack thereof)? And, what can I learn through this research project, which can be shared with teachers and librarians, in future?

Study Background

Existing research examines information literacy instruction primarily within public (Julien & Breu, 2005) and academic libraries (Saunders, 2009;

McGuinness, 2006; Julien & Boon, 2002, 2004; Julien, 2000) and focuses on students' perceptions and abilities (Gross & Latham, 2007, 2009; Grimble & Williams, 2004). Similar studies examine teacher conceptions of student information literacy (Williams & Wavell, 2007) and the connection between teacher attitudes, curriculum constraints and information literacy (Julien & Barker, 2009; Ragains, 2001) but there is a subject and age group gap in the existing research. The literature which will be explored in greater detail in the second chapter, was collected predominately from the library and information studies field due to the professional and academic focus on IL. Establishing a reasonable but focused scope, LIS literature provided an excellent body of material that is inextricably tied to the field of education but has a contextual relevance for this study.

This qualitative study uses a phenomenological constructivist framework because the reflective nature of the research questions is best suited to interviews and discussion (Leedy & Ormrod, 2010). This study will benefit library and information studies scholarship by examining how information literacy is perceived by teachers and taught in grades seven to twelve within the established government curriculum. In order to ascertain the extent of IL instruction that students may have encountered during their education, it is necessary to evaluate the understanding of IL in terms of how it is valued and how it may be instructed. Program and policy development ought to be based on evidence; this study provides data to better understand how IL fits within education by identifying common trends from among the subjective perspectives of individual teachers. Secondary education is the focus of this

study due to the curricular expectations that relate to IL, the formative academic development of students in these grades, and because formalized education has a degree of standardization to it that allows for certain assumptions to be made, such as: IL will be taught, since many students will need these life skills; IL skills support the writing intensive disciplines, ergo students will acquire (directly or indirectly) these skills; the government-mandated curriculum explicitly requires one or more aspect of IL to be integrated in each course, so teachers of these grades will teach these skills within the curriculum.

Information literacy as a concept, but not necessarily as a defined term, permeates many Alberta Education (which went by Alberta Learning for several years) publications. Alberta Learning's (2004) *Focus on Inquiry* initiative supports information literacy goals but is a separate document from the core curriculum. However, the recently implemented social studies curriculum contains explicit connections to inquiry and the *Focus on Inquiry* (Alberta Learning, 2004) which indicated growing support for the integration of IL within core courses (i.e., Language arts, social studies, science, math). With many changes occurring in Alberta Education in the past few years (i.e., limited teacher-librarian positions and implementation of new curriculum), there is a need to ensure that students are receiving the best possible information literacy instruction to support their learning needs. We must therefore examine how teachers define the parameters of information literacy and what factors, from the educators' perspective, influence the quality and quantity of information literacy instruction in secondary education in Alberta classrooms.

Chapter 2- Review of Related Literature

The information literacy (IL) literature is found primarily in the library and information studies field. IL has been studied within academic institutions but the targeted audience has generally been those who have an existing understanding of IL. Librarians, by virtue of their professional training and educational background, understand and value information literacy and its capacity to support student learning, making them the dominant producers and consumers of material regarding information literacy.

Information literacy has been studied at the post-secondary level where IL initiatives have been documented (Ragains, 2001), where IL program implementation and progress have been examined from multiple perspectives (Saunders, 2009; Julien, 2000; Julien & Boon, 2002,2004; McGuinness, 2006; Fister, 2009), and IL skills have been continually identified as a weakness for students (Gross & Latham, 2007, 2009). Related studies and publications have addressed the IL skills of secondary students (Grimble & Williams, 2004; Herring, 2009; Julien & Barker, 2009; Lance, 2002; Scott & O'Sullivan, 2005; Williams & Wavell, 2007), the IL programs in schools (Allen, 2007; Asselin, 2004; Asselin & Doiron, 2003; Asselin, Branch, & Oberg, 2003; Todd, 1995) and teacher education preparation for IL instruction (Branch, 2003; Duke & Ward, 2009; Emmons, Keefe, Moore, Sanchez, Mals, & Neely, 2009). The James Madison University Information Literacy Test (ILT) was developed specifically to assess undergraduate IL proficiency in relation to the Association of College and Research Libraries (ACRL; 2000) Information Literacy Competency Standards for Higher Education. Achievement on this test has been low (Gross &

Latham, 2007, 2009) indicating that there is an existing gap in widely accepted organization standards (i.e., the Association of College and Research Libraries) and actual skill. This suggests that there is a lack of information literacy instruction in early education. Although it is understood that these skills are essential for student success at all academic levels, there is minimal literature examining IL instruction in secondary education. With a narrow pool of studies to examine, for example Gross and Latham (2007, 2009), Julien and Barker (2009), and Williams and Wavell (2007) a broad overview of LIS and education literature was conducted to identify factors that may influence information literacy instruction in general and specific contexts.

Contexts examined for this review include information literacy instruction in public libraries and academic libraries, IL instruction in post-secondary institutions, post-secondary student perceptions of IL, faculty-librarian collaboration, the role of teacher-librarians and media specialists, teacher conceptions and perceptions of IL, teacher education and professional development opportunities for IL instruction, information literacy instruction in general, information literacy in secondary schools and information literacy in Alberta secondary schools.

Information Literacy

The widely-accepted American Library Association (1989) definition of IL requires individuals to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information." Information literacy, according the Association of College and Research Libraries, is:

The basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning." (ACRL, 2000, para.2).

In contemporary society where technology changes rapidly and information sources exist in abundance, information literacy (IL) skills are essential to mediate the vast swaths of information. Moore's (2005) study of IL education worldwide, commissioned by the United Nations, stated that IL "promises economic and social growth in that it enables people to make sense of information-rich environments and to participate in their communities" (Moore, 2005, p.17). International education advocate UNESCO (United Nations Educational, Scientific, and Cultural Organization, 2009, para. 2) defines information literacy in this way:

Information literacy enables people to interpret and make informed judgments as users of information sources, as well as to become producers of information in their own right. Information literate people are able to access information about their health, their environment, their education and work, empowering them to make critical decisions about their lives, e.g. in taking more responsibility for their own health and education.

IL is, in a sense, the key that fully unlocks to the door to information. It facilitates a means to access and an ability to make best use of information by providing users with the tools they require. Todd (1995, p.67) described the significance of these skills as: "Information literacy is the key- now and in the future- to students being effective and purposeful consumers of information." For personal, professional and academic purposes, available information sources are extensive and often unfiltered. Issues of credibility and reliability become major concerns where information consumers are not prepared to properly

evaluate the content, sources, and currency, among other factors, of the information they retrieve. There are concerns regarding the problem of too much information and not enough skill to make effective and efficient use of information (ACRL, 2000).

The Association of College and Research Libraries' (ACRL, 2000) Information Literacy Competency Standards for Higher Education outlines standards, performance indicators, and outcomes that students entering post-secondary studies need to be successful. As such, these skills must be nurtured throughout elementary and secondary education. Unfortunately, the American Library Association does not outline IL standards for kindergarten to grade 12; for this reason, the ACRL standards are used in this study to guide examination of teacher inclusion of IL in their classes. As with Alberta Education curricular outcomes, IL skills and processes should build upon themselves and develop into sophisticated abilities. Ideally, the skills taught will be increasingly complex but will be supported by ongoing instruction, immediate feedback, and opportunities to extend existing understanding into a refined skill set (Alberta Education, 2000, 2006, 2007a, 2007b; Alberta Learning, 2004). For the purposes of this study, the ACRL (2000) standards are used in conjunction with the critical incident qualitative interviewing technique to explore how teachers incorporate IL lessons or activities into their classes.

Information Literacy (IL) Instruction

Research suggests that IL instruction has a "significant positive impact on mastery of content and attitudes to learning" (Todd, 1995). Information literacy instruction is not bound to libraries and their resources, nor does it fall to

teachers alone (Julien, 2009). It is a shared responsibility. The charge of teaching information literacy may be daunting and it is easy to fall into a pattern of focusing on the very basic, superficial skills of using keywords in a catalogue, database or search engine. IL instruction needs to go beyond those skills to make the lessons meaningful. The notion of IL as an essential skill is not new, nor is the belief that IL supports advanced learning skills and process. However, IL as a term is not widely recognized and the skill set taught and acquired is often incomplete.

Information literacy should be perceived as a process of constructing meaning (Todd, 1995). IL is, according to Kirk, Poston-Anderson, and Yerbury (1990) as cited by Todd (1995, para. 4)"a holistic, interactive learning process encompassing skills of utilizing information from sources, being able to consider it in the light of current knowledge, adding it to existing knowledge, and applying this knowledge capably and confidently to solve information needs." Constructing understanding using information at an individual level develops essential critical and creative thinking skills thus supporting fundamental objectives of the Alberta Education (2000, 2006, 2007a, 2007b) programs of study. Todd (1995) argues that embedding IL skills as process tools enables students to establish connections between what they know and what they are discovering to create a stronger, more in-depth understanding of topics studied. This also enables the information literate to apply these skills to new situations.

Coordinating information literacy instruction with curricular content is necessary for academic success (Allen, 2007). Allen's (2007) survey of IL curricular integration found that: "among the international community there is a

consensus on curricular integration of IL (ICT) as opposed to stand-alone classes." Information and communication technology (ICT) literacy, Allen (2007) argues, is more than a superficial application of modern technology to solve information needs; it requires using information and communication technology to "analyze and understand information more deeply" (Allen, 2007, p.23). Allen (2007) examined 15 independent school programs from the US that claimed to have IL curricula and found that their definition of IL and their practices were inconsistent, leading her to determine that a 'best practice' model did not yet exist.

Lacking a universal understanding, teacher conceptions of IL were limited in scope (Allen, 2007; Gibson, 2004). In assessing teacher understandings of IL, Gibson (2004) found that teachers only embrace a few elements of IL such as locating, evaluating and managing information but disregard the affective elements or "the sense of how information is experienced" (Gibson, 2004, p.17). Allen (2007) argues that of the seven faces of IL proposed by Bruce (1997, 2003), only the three rudimentary faces, including locating and accessing information, are seen by most educators but the additional four are needed to move IL into the 21st century.

Teachers, in information-rich environments, have access to varied quantities of information through library facilities and ICT technical support in schools but this "puts considerable pressure on their own knowledge of technology and information processes and their ability to develop the information skills of students" (Moore, 2005, p.1). Teachers may have tools but

may also continue to struggle with teaching others to use those tools efficiently and effectively.

Affective aspects of the information search process should also be considered, especially when introducing IL as a process as opposed to a means to an end. The frustration many students experience is normal but can be mitigated by integrating IL into the curriculum (Scott & O'Sullivan, 2005). IL instruction has proven again and again that it improves self-perceptions of learners. In his study of high school students in England, Herring (2009) found that application of IL skills on course assignments increased student confidence. Higher self-esteem, a greater sense of control, self-reliance and independence enhances positive attitudes and develops stronger learners (Todd, 1995). Effective IL instruction enables students to better understand their learning process and accept challenges. Ongoing reflection on the process enhances educational experiences but IL should be shown to be transferable. Ensuring the application of IL to multiple scenarios may require extensive guidance on the part of the teacher (Herring, 2009) but is well worth the short-term pain for the long-term gain.

Information Literacy Instruction in Public Libraries

As with all programmatic and organizational planning decisions, time, funding, personnel availability and staff training affect all libraries' ability to offer information literacy instruction. The unique situation public libraries face as publicly funded institutions with inconsistent and diverse clientele creates hurdles to offering sufficient IL instruction. Limited staff, time and funds may

also hinder public libraries' ability to offer professional development for staff and thus satisfactory IL for patrons.

Julien and Breu's (2005) quantitative study of public libraries across Canada indicated that 82% of respondents felt that information literacy instruction was a responsibility of public libraries but it was evident from other responses that information literacy instruction was not often a priority. Fifty percent of librarians responded that they felt prepared for IL instruction while 45% did not feel prepared. Julien and Hoffman (2008) found that many public library patrons who participated in their study were comfortable with the internet, which was their dominant reason for visiting the library; however, the librarians who participated reported that patron internet use skills were low (Julien & Hoffman, 2008).

Information Literacy Instruction in Post-Secondary Institutions and Academic Libraries

Many of the barriers to offering information literacy instruction in public libraries are also found in academic libraries. Julien and Boon's (2004, 2002) phenomenological case study of three academic libraries found that few financial and human resources were allocated for information literacy instruction. Adequate staff and training were lacking, as were sufficient budgetary resources to accommodate for the technology and space necessary to provide sufficient information literacy instruction. Collaboration between librarians and faculty would be ideal but many barriers prevent this from happening.

Faculty assumptions regarding student skill and a lack of understanding of the importance of information literacy undermines a librarian's ability to

collaborate effectively with faculty. Hardesty (1999) suggests that faculty are constrained by the time available to them and their lack of knowledge regarding the role the librarian could play in their course. As such, faculty may not be uninterested, but are simply uninformed. Faculty in post-secondary institutions often believe that students understand how to conduct efficient and effective research, thus negating the need to offer information literacy instruction in class (McGuinness, 2006). Data collected and disseminated in Julien's (2000) quantitative study of academic libraries and information literacy instruction was supported by the Julien and Boon (2002, 2004) studies. Analysis of the data provided by a national survey allowed the authors to determine that librarians felt they lacked of time for planning and delivering instruction which prevented sufficient information literacy instruction. Information literacy instruction was not valued by faculty, and student attitudes towards the library and librarians influenced the quality of information literacy instruction (Julien, 2005; Julien & Boon, 2002, 2004). Given and Julien (2005) found that librarians expressed dissatisfaction in the interaction with faculty members. Faculty attitudes were not fully explored in these studies and remain under-reported in research publications.

McGuinness (2006) found that there is a lack of understanding among faculty regarding information literacy as the literature is primarily found in the library and information studies field. McGuinness' (2006, p.574) qualitative study, using a combination of case study and grounded theory methodology, examined the "faculty problem" which she explained as the "perceived reluctance of the academic teaching staff to instigate the appropriate structural

program changes, which would permit the integration of information literacy development with the teaching curriculum." Semi-structured interviews identified internal and external factors preventing collaboration between library staff and faculty with regard to information literacy instruction. Conclusions included the basic agreement that faculty tend to rely on passive learning and student motivation to achieve the information literacy outcomes. In light of Julien (2005) and Julien and Boon's (2002, 2004) findings that students' perceptions of the library and library staff will affect their use of the library and subsequently the IL that is offered, this passive approach does not guarantee that students will acquire the skills they require. Although intrinsic motivation may bring the student to the library, they may not be receiving the instruction that would best meet their academic needs.

School Libraries

Libraries within school settings provide students and teachers with resources to enhance and extend their learning experiences. They supply material to appeal to student interests, broaden their literary horizons, and support the curriculum. A Scholastic (2008) study emphasized the important role a school library and a media centre specialist can have on student achievement and Todd (2009) has embraced the evidence-based approach to librarianship and is studying the effect school libraries may have on students. For the purposes of this study and due to the emphasis on the person as well as the physical library space, I focus on teacher-librarians and media centre specialists later in this chapter.

Post-Secondary Student Perceptions of Information Literacy

Gross and Latham's (2009) mixed-method study analyzed interview data from their qualitative study of undergraduate student conceptions of and experiences with information literacy and compared interview data to information literacy test results. The student focus tended to be on the product or end-result; they focused on the final destination as opposed to the journey that got them there. Little consideration was given to the process, even by the information literate participants. The study also noted that students preferred to consult other people for information. Reliance on others and disregarding the importance of the IL process indicates that participants are more interested in efficient and personally effective means of resolving their information needs but the ILT results indicate that they are not at all effective. The study did not draw conclusions regarding information illiterate participants but noted that literate participants had a realistic understanding of their ability. Gross and Latham's (2007) quantitative study examined the gap between undergraduate student perceptions of information literacy ability and their actual skills. According to the data analysis, 45% of the students who participated were information illiterate. This is an issue for education policy makers, administrators, and educators at all levels. It is often assumed that students who are familiar with a wide array of technology are information literate but this is obviously not the case (Julien, 2009). As Julien (2009, p.86) states: "A decade spent doing quick and dirty Google keyword searches does not result in sophisticated information literacy understanding of skill." There is an evident gap between the ACRL standards and what students have demonstrated as their IL proficiency on the

James Madison University Information Literacy Test (ILT) standardized assessment. The ILT is a 65-item standardized assessment based on the ACRL Information Literacy Competency Standards for Higher Education. The test was designed to examine the IL proficiency of incoming undergraduate students and has been a very successful measure.

Faculty-Librarian Collaboration

A collaborative approach between faculty and librarians would be the most effective way to instruct IL due to the respective understandings of pedagogy and information literacy (IL) but many librarians felt that faculty would be reticent (Fister, 2009; Owusu-Ansah, 2004; Saunders, 2009; Ragains, 2001). Saunders (2009) identified a major concern in studying faculty-librarian relations as the lack of a universal definition of information literacy. There was also disagreement regarding whether information literacy should be holistic in approach or remain competency-based (Saunders, 2009). A holistic approach might suit the Gross and Latham (2009) participants who focused on the end product but competency-based allows for consideration of the many steps involved in being fully information literate. Saunders' (2009) qualitative study of information literacy instruction in academic libraries employed the Delphi technique in which a panel of 13 experts in the field of librarianship and literacy were convened and surveyed to develop a consensus on information literacy instruction. The panel determined that a collaborative approach between faculty and librarians would be most effective however many felt that faculty would be unwilling. Julien and Pecoskie (2009) found that complex relationships exist between librarians and faculty. Unequal power distribution, which was often

ceded to the faculty, was often attributed to the culture of the institution (Julien & Pecoskie, 2009). Power dynamics will inevitably prevent an institution from reaching their instructional goals, in these cases, related to information literacy. These results were supported by Ragains (2001) who found, through a pilot case study at the University of Nevada, that faculty buy-in was essential for IL instruction to be a success. Saunders (2009) also found that faculty do not consider librarians peers and believe that they do not possess the pedagogical knowledge necessary to effectively instruct a class. In light of these beliefs the collaborative approach would likely garner greater support for IL instruction but establishing that collaboration may be difficult (Given & Julien, 2005; Saunders, 2009).

The Information Literacy Pilot Project at the University of Nevada, Reno, integrated IL instruction into core courses. Ragains (2001) documented the preparation, execution and assessment of the pilot program which included approximately 315 students in 5 core courses. The program coordinators identified skill levels related to undergraduate students' information use and standards for information literacy. The case study reviewed current IL instruction at the institution, determined an assessment strategy for the pilot study, identified additional IL instruction opportunities and delivered the chosen options through the courses in the pilot project. The results were compiled at the end of the courses. Analysis of student IL skills illustrated the importance of IL instruction in elementary and secondary school as it was discovered that many students were unfamiliar with concepts such as peer review or scholarly publications and assumed that most information they needed could be found

online. Despite the obvious differences in student body and faculty, this study provides insight into the information literacy gap between secondary and post-secondary education, as well as the importance of teacher/instructor attitude regarding IL.

Saunders (2009), McGuinness (2006), and Ragains (2001) focused on post-secondary institutions where the faculty-librarian relationship is likely to be very different from the secondary school teacher-librarian relationship. It is necessary to establish how this dynamic affects information literacy instruction at different institutions and at different academic levels.

It is evident from the research that librarians see the benefit of collaboration with faculty but Fister (2009) found that this is more likely to occur when there is a pre-existing relationship or when coordinating activities with instructors of required first-year courses. Fister (2009) suggests that a librarian's time would be better spent on faculty development, as opposed to teaching students. However, Julien and Given (2003) advocate promoting an integrated model to best meet the needs of the students. Citing Eliot (1989) and Stein and Lamb (1998), these authors argue that a collaborative approach would facilitate the IL skill development of students within their existing course work. Professional development, especially where the development of a skill set is required, benefits more than the individual. Ongoing, lifelong learning is an essential element of information literacy and library professionals have the opportunity to lead by example. By educating faculty, library and information professionals would be able to increase the likelihood that students would receive formalized IL instruction. Due to the realistic obstacle of too many

students and not enough time or personnel, librarians cannot reach all students; however, educating faculty will increase the effectiveness of IL instruction for their students.

Teacher-Librarians and Media Specialists

Formally trained teacher-librarians have the potential to bridge the pedagogical-information literacy knowledge gap identified by the literature. Possessing degrees in education and in library and information studies or, at the very least, several courses in library science, formal teacher-librarians are expected to bring together these fields of study to better meet the information needs of students and teacher. Despite this, few teacher-librarians remain employed in Alberta. Many school libraries in Alberta are staffed by library technicians, teachers with no LIS training, or volunteers. Some teachers who work as librarians possess education degrees with only several courses in library science. Only 10% of schools have formally trained teacher-librarians (Alberta Education, 2010). According to Asselin, Branch and Oberg (2003, p.7) "teacher-librarians provide leadership in information literacy and work collaboratively with classroom teachers to ensure that literacy skills are integrated effectively into the instructional program." Unfortunately, Canadian school librarians are in a weakened state and the emphasis on 'traditional' education, such as basic literacy and numeracy, has greatly affected the development of IL education programs (Russel, 2005). Todd (2009) has worked extensively in the field of evidence-based librarianship practices to ensure that the benefit of school libraries and their staff is observed and documented to

provide the impetus to support a greater investment in school libraries. Without the requisite evidence, allotting funds for such projects will be difficult to justify.

Studies and related literature from the United States praise media centre specialists for their ability to improve information literacy. Media center specialists, who according to Scholastic (2008) are certified professionals, offer similar services to libraries yet consolidate their information resources in one area with staff support. As a media centre, the emphasis is on the provision of resources to meet the information needs of the users, in this case students, through the use of information and communication technologies. Lance (2002) found that student achievement in four case studies increased consistently with the incorporation of a library media center and specialist into the school. Library media specialists, Grimble and Williams (2004), found an 18% increase in student perceptions of their information literacy skills following information literacy instruction sessions. Studies of the school library's ability to develop IL skills found that the "librarian's instruction as well as her positive attitudes towards students enhanced lessons and helped students learn information literacy skills" (Sakr, Nabhani & Osta, 2009, p.28). These positive experiences and feelings will facilitate IL skill development.

Despite this, little interaction between teachers and teacher-librarians has been found (Sakr, Nabhani & Osta, 2009). Hylen (2005) recommends flexible scheduling to allow for collaboration. Permitting this freedom in scheduling at a school level would provide opportunities for collaboration and demonstrate administrative support for IL instruction. Part of the issue with collaboration is a lack of understanding regarding how teachers plan (Wolcott, 1994). The

teacher-librarian, having a Bachelor of Education degree and a Master of Library and Information Studies degree, is expected to provide a balance of pedagogy and professional knowledge but coordinating with teachers is not that easy. Lesson planning and delivery is not a uniform procedure. Each teacher, like each student, will approach a task differently. Accommodations will therefore have to be made to provide time to facilitate collaboration. Ongoing professional development in this area would also open other channels of communication, thus creating additional opportunities to collaborate and enhance IL knowledge and understanding. Teacher-librarians have the opportunity to promote IL professional development in their schools and school districts (Asselin, 2004) which would, as previously mentioned, increase the occurrences of IL within the formal classroom setting.

Teacher Perceptions: Examining their Understandings

Determining how teachers perceive an essential concept is an important focus of educational research because "teachers often teach the content of a course according to the values held of the content itself" (Pajares, 1992, p.310). Pajares (1992) conducted an extensive review of literature related to the study of teacher attitudes and beliefs and determined that beliefs must be inferred from statements and behaviour. For the purposes of this study, the interviews were semi-structured and used the critical incident technique to facilitate exploration of subjective understanding. Many researchers believe that teacher beliefs must be studied in accordance with the context of the teaching situation, i.e., the school or classroom (Dreeben &Barr, 1988), which suits the phenomenological approach of this study as the phenomena are best studied

where the action takes place. The teaching situation has a significant impact on the instruction itself as well as the teachers' willingness to approach curriculum. In order to understand information literacy instruction in secondary schools, the perceptions held by teachers need to be considered. If Pajares (1992) is correct, teachers who value IL are more likely to instruct it but as studies of post-secondary institutions have shown, students are not graduating with these skills. This indicates that teachers are either unfamiliar with IL instruction or do not subscribe to the belief that IL is an essential skill. As found in studies of public libraries, the surrounding 'environmental' issues such as, available time and support, may have a significant influence on IL instruction and must be considered in the context of the teaching assignment and from the teachers' perspective.

Education policy, which changes rather rapidly, is a significant factor influencing instruction. According to Ros at al.'s study (1996), as cited by van den Berg (2002), 80% of teachers were concerned about the rapid changes to education policy implemented by policy makers. More than 40% reported feelings of "losing control over their work" (van den Berg, 2002, p.606). Over 35% of the respondents felt unsure of how to adapt their instruction as a result of the developments. Ongoing changes to education policy at the provincial level in Canada and the never-ending goal of improving education content, delivery, assessment, as well as the overall experience for all stakeholders, will inevitably cause stress among those on the frontlines.

Because of the individual nature of teacher understanding, specifically their perception of IL, and how these understandings influence instruction, van

den Berg (2002) recommended policy changes be made by the educators. Hawley and Valli (1999), as cited by van den Berg (2002), reinforce this ideal by imparting the belief that teachers, as opposed to programs, have a significant impact on all students. Pajares (1992, 320) argues that research findings indicate a relationship between "teachers' educational beliefs and their planning, instructional decisions, and classroom practices." In creating an understanding of policies and developing instruction supported by individual beliefs and shaped by attitude, researchers need to consider the notion of collective sense-making (Coburn, 2001). Teaching is, especially in recent years, a collaborative activity. Many Alberta school boards have adopted the practice of Professional Learning Communities in which teachers collaborate to develop assignments and assessments to meet the curriculum standards and to improve instructional strategies. Given this new approach to the practice of teaching and the aforementioned hesitation experienced by teachers regarding new policies, the context surrounding the teacher's experience in Alberta is an important consideration. In contemplation of this new approach to collaboration and in consideration of collective sense making, IL should be examined from the teacher perspective to evaluate how the classroom instructors perceive information literacy and how they see it fitting within their teaching assignments. Factors influencing IL instruction, both positive and negative, need to be identified to better understand the current state of IL and determine future courses of action.

The curriculum dictates what students should know and be able to do or what the teacher is expected to teach. Curricula are developed with the input of a

variety of stakeholders and reflect social values. They encapsulate the required education foundation for each grade and teachers are required to teach the curricula they have been assigned. Todd (1995) found that integrating IL into the curriculum was initially difficult for teachers but that the benefits were worth the effort. Teachers indicated that they saved time in the preparation and delivery of content as the framework developed to integrate IL into the curriculum content could be applied to multiple tasks. Course content was then sequenced effectively and presented more clearly. Management was less of an issue as students were able to work at their own pace within the larger group. Assessment was also more effective as criteria were easier to establish and the feedback was more focused. Teacher confidence and enjoyment of work increased and teachers found their experience professionally rewarding. Although dated, this study provides interesting insight into the practical issues and benefits of integrating IL effectively and efficiently into courses.

Teacher Education and Professional Development

Teacher education programs have grown leaps and bounds in the past decade with their inclusion of IL but it is still insufficient (Duke & Ward, 2009). Julien (2009) does not limit the responsibility to instruct IL to one group. She states "school teachers, university and college instructors, and even parents have a responsibility to develop and improve their own skills and to assist others in their information literacy journeys" (Julien, 2009, p.86). Personal and professional development is essential, especially for teachers, given the insufficient IL education offered in teacher education programs.

Asselin and Doiron (2003) found minimal inclusion of IL in teacher education programs across Canada. Ongoing collaboration between teachers and librarians within K-12 classes and within post-secondary institutions is necessary to ensure that teachers are prepared to effectively and efficiently instruct information literacy skills (Duke & Ward, 2009), however teachers' lack of understanding of IL leads to low TL-teacher collaboration for IL instruction (Whelan, 2003). Emmons et al. (2009) "believe that information literacy (IL) skills are critical in preparing teachers who can thoughtfully, critically, and ethically implement evidence-based practices." To expect sufficient IL skills in graduating students, teachers must obviously possess these skills themselves and the authors report the success of their integration of IL into coursework for a teacher education program. Asselin (2004, para. 4) suggests "teachers need to learn a progressive, developmental curriculum of information literacy skills and how to use explicit instructional strategies (modeling, demonstrating, explaining)." It is not enough for teachers to be information literate; they need to better understand how to nurture those skills in their students. Shifting from developing information literate teachers to supporting teachers with the integration of IL into their teaching practice would better prepare pre-service teachers for IL instruction in the classroom (Branch, 2003).

Information Literacy in Secondary Schools

Williams and Wavell's (2007) phenomenological study examined teacher understanding of information literacy, how their conceptions of IL manifested themselves in instruction, how their individual understanding of IL differed from colleagues and how their understanding changed after discussing information

literacy with others. The authors interviewed thirty-one secondary school teachers from Scotland and England. Practitioner-centered, the study used group discussions, informal meetings, site visits and follow-up group discussions. From the data, the researchers were able to identify contextual factors that shaped information literacy conceptions. The study found that individual teachers are unique in their experience, comprehension and priorities in the classroom. Many contextual factors such as current education practice, curriculum requirements, teacher experience (training, comprehension of topics, priorities in the classroom) shaped teacher descriptions of student information literacy (Williams & Wavell, 2007, p.202). When the focus of information literacy instruction was concrete; for example using a textbook or locating resources to satisfy an information need, teachers were sure of their ability to instruct information literacy skills and processes (Ibid.) When the instruction was more abstract, such as making sense of information on an individual student level, teachers were unsure of how to proceed because of the unique cognitive differences of each student. Most teachers recognized the importance of process as the focus for information literacy instruction but struggled to find time to develop, deliver and assess information literacy instruction in conjunction with their existing curriculum objectives (Ibid., p.209). As education in Canada is a provincial government responsibility and each province has its own curriculum, it is necessary to conduct similar studies within these boundaries to assess local understandings of information literacy and its relationship with provincial curricula.

Julien and Barker's (2009) study examined the existing Alberta curriculum mandates to instruct information literacy skills and the actual information literacy skills students possess. Through combining data from an analysis of an in-class assignment targeting student information seeking processes and semi-structured interviews, the qualitative study found that despite detailed government mandates to instruct information literacy skills, the students who participated in their study demonstrated underdeveloped information literacy skills. A total of 82 assignments were collected and 24 interviews were conducted with high school science students from one multicultural urban public high school. Based on the data analysis, the authors concluded that the "'Focus on Inquiry' document (Alberta Learning, 2004), which explicates sound information searching skills, is clearly insufficient to ensure that students are learning these skills" (Julien & Barker, 2009, p.15). Explicit curricular mandates to instruct information literacy notwithstanding, minimal provincial assessment is devoted to evaluating these skills. As a result, teachers are less inclined to focus on information literacy.

Information Literacy and Alberta Education Curriculum

Alberta Education publications reinforce the importance of information literacy through their programs of study and associated documents. The required teaching documents and their connection to information literacy are summarized below. A further qualitative content analysis discovered an overwhelming abundance of references to IL skills throughout a variety of

Alberta Education documents.[1] These fundamental skills permeate Alberta Education documents published for teachers and related stakeholders.

Passive integration of IL skills within Alberta Education (2006, 2007a, 2007b) and Alberta Learning (2000) curriculum documents indicates that stakeholders expect students will develop information literacy skills throughout their secondary education. LIS research has found a lack of IL skills among high school students and traditional undergraduates indicating that these crucial IL skills are not being instructed or enforced to any great extent (Gross & Latham, 2007, 2009; Williams & Wavell, 2007; Julien & Barker, 2009). Given the consistently low IL skills of students entering post-secondary institutions and the abundance of IL-related references in Alberta Education publications, it seems fair to say that the current program is either insufficiently supported or teachers are unprepared.

Although teachers may not be very familiar with the term 'information literacy', teachers familiar with the English Language Arts, Social Studies, and Information and Communication Technology (ICT) Programs of Study will be familiar with the concepts of locating, accessing and using information. Research is defined as a fundamental basic skill in Ministerial Order #004/98 (Alberta Education, 1998), indicating that all teachers would, by virtue of their chosen profession and their obligation to be familiar with these basic standards, be aware of this goal. The knowledge, skills and attributes outlined in Ministerial Order #016/97 (Alberta Education, 1997) must be attested to by teachers and

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[1] For a brief period in the early 2000s Alberta Education became Alberta Learning but reverted back to the previous title shortly thereafter. I have chosen to keep the name of the authoring bodies consistent with the administrative name at the time each document was published.

administrators applying for certification and therefore teachers should certainly be familiar with what is expected of them and their own IL skills. Although this is not guaranteed, one would assume that all teachers are familiar with these expectations.

Inquiry-based learning allows students to develop stronger information literacy skills. Alberta Learning's (2004) 'Focus on Inquiry' offers teachers and administrators support for inquiry-based learning activities (see further discussion under Focus on Inquiry sub-heading). Inquiry-based learning has been explicitly incorporated into the social studies program and is found under the heading 'Research for Deliberative Inquiry'. Inquiry encourages the development of information literacy skills for successful fulfillment of the curricular objectives. Many of the documents published by Alberta Learning and subsequently Alberta Education since the publication of Focus on Inquiry in 2004 include elements of information literacy. The new Social Studies (Alberta Education, 2006, 2007a, 2007b) program of studies emphasizes the importance of information literacy throughout the document and the Distributed Learning Strategy (Alberta Education, 2008a) implicitly encourages the development of information literacy skills. Alberta Advanced Education and Technology (2009) published 'Living Literacy: A literacy framework for Alberta's next generation economy' demonstrating a long-term commitment to the new brand of literacy. Alberta Education's (2008b) draft document 'A Literacy Framework for Alberta' show a clear shift in education policy and should be embraced.

The dynamic scope of literacy, from the traditional 'reading and writing,' to incorporate elements of IL illustrates the acceptance of these skills as

essential, fundamental, lifelong competencies although there is inconsistency in understanding of the term 'literacy.' Being 'literate,' according to Merriam-Webster (2011), requires possessing knowledge or competence. The American Library Association (ALA, 2005) defines literacy as the ability to use "printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential." They adopted this definition from the United States Department of Education's 2003 Assessment of Adult Literacy. The United Nations Educational, Scientific, and Cultural Organization (2011) describes the concept of literacy as moving:

> Beyond the simple notion of a set of technical skills for reading, writing and calculating to one that encompasses multiple dimensions of these competencies. In acknowledging recent economic, political and social transformations- including globalization and the advancement of information and communication technologies (ICTs) - UNESCO recognizes that there are many practices of literacy embedded in different cultural processes, personal circumstances and collective structures.

These three definitions vary drastically in scope and specificity but they are fundamentally consistent in that they are more than basic skills. Literacy seems to have become a broad umbrella term with multiple, ever-expanding, off-shoots to describe more specific skill- or subject- based competencies. Although each literacy is essential for today's information consumer, the interdependent nature of these literacies might benefit from one comprehensive term. There may also be a benefit to separating the literacies into distinct terms to differentiate the skills required thus facilitated the understanding and instruction of these literacies. This is not a topic explored in this thesis but would be a very interesting topic for future research.

Although information literacy instruction will be more work for teachers upfront (Todd, 1995), it will pay off with greater student independence, enhanced critical and creating thinking, as well as more informed and engaged citizens. IL enables students to function independently as aware consumers and creators of information who may be technology savvy but are not information savvy.

English Language Arts Program of Study

The English Language Arts (Alberta Learning, 2000) program of study is required reading for all English Language Arts teachers. The goal, as stated by the Program of Study, is to "enable each student to understand and appreciate language, and to use it confidently and competently in a variety of situations for communication, personal satisfaction and learning" (Alberta Learning, 2000, p.2). General Outcome 3 embodies the essence of basic information literacy and outlines a skill set to promote attainment of other outcomes. This outcome states that "students will listen, speak, read, write, view and represent to manage ideas and information" (Alberta Learning, 2000, p.47). Specifically, students will be expected to plan and focus their topic, plan their search strategy, select and process resources and information, as well as organize, record and evaluate information. Specific Objective 3.1 also addresses identifying information need which is a fundamental information literacy skill. Students are expected to consider and evaluate the types and sources of information appropriate for topic, audience, form, purpose and point of view to balance their own ideas with the information they locate during research. Prior to gathering information, students are expected to plan and organize how they will access information

sources, and record their data collection according to set or self-selected criteria. They will also select, record and organize information from a variety of credible sources that support or enhance their arguments or offer unique perspectives. The objectives build upon each other as the student progresses from grade to grade and the extent and depth of the student expectations for each objective expand with each grade.

At first glance, there is an extensive and somewhat intimidating set of skills to be taught. Despite the expectation that these skills will be taught there is a realistic concern that teachers may not be prepared to fully integrate these skills into their lessons. With independent teaching styles and a consideration of students as individuals with unique learning styles, the program of studies and the illustrative examples may not be enough support for these skills. The Focus on Inquiry supports the development of these skills yet is a separate document, classified as a support document. The Social Studies Program of Study integrates Information and Communication Technology objectives with concepts from 'Focus on Inquiry' to develop a more cohesive approach to integrating these skills into classrooms. Theoretically, this integration will support the development of these skills (Allen, 2007).

Social Studies Program of Study

From 2006 to 2007, a new social studies curriculum was implemented across the province. The revised program of study incorporates 'dimensions of thinking' reflecting many information literacy skills. A featured dimension of thought included in the curriculum is critical thinking which encompasses inquiry, analysis and evaluation permitting reasoned decision making and

informed judgements. Critical thinking also promotes democratic citizenship- a key goal of Alberta Education. Creative thinking encourages drawing connections between ideas and information to generate informed approaches to questions and issues. Metacognition, another 'dimension of thinking,' raises students to a new level of understanding. Through self-awareness and reflection, students become stronger critical and creative thinkers. They become active, engaged and critical consumers and creators of information and thus knowledge. Encouraging development of these dimensions of thinking moves the program of study beyond a superficial, knowledge-based curriculum. The changes to the program of study reflect a desire to promote engaged, self-reliant, and informed citizens. The dimensions of thought and their associated objectives explicitly link to IL skills as they intrinsically support the same ideals. Information literacy supports the development of these dimensions and, if incorporated effectively into instruction, would provide teachers with an efficient means of achieving these goals.

'Research for Deliberative Inquiry' supports application of the research process and the subsequent use of information. The term 'inquiry' is used throughout the social studies curriculum and is supported by the Alberta Learning (2004) publication 'Focus on Inquiry.' Inquiry, as defined by Alberta Learning/ Education, embodies many of the ideas of information literacy. Research, inquiry, and thus IL skills, permeate the new social studies program of study, progressing from grade to grade to develop more complex skills and processes.

The infusion of technology is expected throughout the Social Studies curriculum. Technology is treated as a tool to facilitate the development of expected skills and processes. The general outcomes from the Information and Communication Technology (ICT) program of study are integrated in the social studies curriculum but not the English Language Arts program. The ICT outcomes have strong links to inquiry as a process and thus information literacy.

Information and Communication Technology (ICT) Program of Study

The ICT program supports the effective, efficient and ethical use of technology for learning. By implementing the expectations set forth in the Information and Communication Technology (ICT) within the core programs of study, students will learn how to use and apply information and communication technologies to solve problems, make informed decisions, inquire and conduct research.

ICT incorporates tools, techniques, and processes to support IL related skills such as: "gathering and identifying information, classifying and organizing, summarizing and synthesizing, analysing and evaluating, speculating and predicting" (Alberta Learning, 2000-2003, p.1). Although the majority of the program focuses on the use of technology, Outcome Category "Communicating, Inquiring, Decision Making, and Problem Solving" embodies the ideals of IL with an emphasis on technology. This category states that:

- Students will access, use and communicate information from a variety of technologies.

- Students will seek alternative viewpoints, using information technologies.

- Students will critically assess information accessed through the use of a variety of technologies.

- Students will use organizational processes and tools to manage inquiry.

- Students will use technology to aid collaboration during inquiry.

- Students will use technology to investigate and/or solve problems.

- Students will use electronic research techniques to construct personal knowledge and meaning.   (Alberta Learning, 2000-2003, p.4)

Focus on Inquiry

The inquiry-based learning model developed by Alberta Learning in 2004 to modernize their "Focus on Research: A Guide to Developing Students' Research Skills" (Alberta Education, 1990) emphasizes the process of forming questions, investigation, and developing new understanding. The Focus on Inquiry model provides a model applicable to all disciplines and supports the inquiry concepts (Research for Deliberative Inquiry) presented in the social studies program of studies. This document is intended to support attainment of skills and processes outlined in the subject discipline programs of study.

The inquiry process model incorporates information literacy skills throughout. In the 'Planning' phase, topics are identified, potential information sources are considered, and an inquiry plan is developed. An information retrieval plan is created in the second phase, 'Retrieving.' With the inquiry plan developed, resources are located and collected. From this information, relevant details are identified while the information is evaluated. Revisions to the plan are expected. The Processing phase requires students to establish a focus for their inquiry while reflecting upon their retrieval stage. Pertinent information is

selected and recorded while the inquiry plan is again revised. Throughout the remaining phases (Creating, Sharing, and Evaluating), the inquiry plan is revised, information is edited, and reflection is continuous.

Processes outlined in the document enable students to utilize a framework that facilitates locating and using information. As a highly transferable skill set, it is expected that students, when confronted with an information need, will be able to apply their 'inquiry' skills to effectively and efficiently fulfill the need. These skills will enable lifelong learning and encourage students to use their inquiry skills to find solutions to problems, to "deal with changes and challenges to understanding" and "shape their searches for solutions" (Alberta Learning, 2004, para. 3). Inquiry-based learning is characterized by classrooms where "data and information are actively used, interpreted, refined, digested, and discussed" (Alberta Learning, 2004, p.4). The document promotes engaging students at a deeper intellectual level with a focus on skill and process as opposed to content. The inquiry model is highly involved for teachers and students but provides a framework applicable to a multitude of tasks. The initial investment of time and effort would be rewarded later with student independence and higher quality performance from the students.

Since teachers are likely unfamiliar with information literacy as a comprehensive concept and as a term, they may rely on the expertise of their librarian or teacher-librarian, if available. There is an expectation that the teacher and teacher-librarian will collaborate, technology will be incorporated to enhance the inquiry process and that teachers will facilitate the processes of collecting and disseminating information. Teachers need to scaffold student

learning which requires a substantial investment of time and effort. The curricula are structured in such a way that the knowledge and understanding, skill and process, values and attitude expectations build upon each other to shift from the basic to the sophisticated. In terms of constructing knowledge, a strong foundation needs to be set before the building blocks are laid. The blocks need to come together before the frame and roof are installed. The frame can then be built up and detail added. In order to do this efficiently and effectively, the building team needs an informative, well organized, yet user-friendly blueprint and tools to build the knowledge. Since the *Focus on Inquiry* (Alberta Learning, 2004) acts as a blueprint, it can be assumed that teachers do not have adequate tools to commence building.

Summary

The general consensus in the literature is that librarians understand the complexity of information literacy but may lack pedagogical knowledge to instruct IL. Faculty understand pedagogy but lack information literacy knowledge. This information gap has not been rectified, nor is much collaboration occurring thus information literacy instruction suffers at all academic levels as a result. Collaboration between library and education professionals would undoubtedly benefit information literacy instruction but rarely happens. Contextual factors influence a librarian's and teacher's ability to offer information literacy instruction and although many of factors have been consistent across the country regardless of library type and academic levels, these factors should be considered within each institution as unique differences will be found. A localized study of teacher experiences with information literacy

is especially important due to the provincial mandate regulating education. With new curriculums being implemented in Alberta and the position of teacher-librarian disappearing from schools, it is necessary to assess the importance of the faculty-librarian relationship in instructing information literacy and the contextual factors that influence the teacher's attitude towards information literacy.

Chapter Three- Method

A phenomenological research design was used to assess teacher understanding of information literacy (discussed in greater detail following the description of the logistics of this study and before the fourth chapter which is on data explication.) With this study, I sought to understand the participants' "perception, perspectives and understanding" (Leedy & Ormrod, 2010) of information literacy, what factors have shaped these elements and how these elements influence information literacy instruction.

Paradigm: Phenomenology

Research paradigms provide exemplars or models that guide research design (Groenewald, 2004). These paradigms deal with the researcher's worldview by providing sets of beliefs that guide action (Denzin & Lincoln, 2000; Groenewald, 2004). Guiding how the research question and the elicited data will be examined and understood, a paradigm offers a framework to process the research findings. A paradigm should reflect the approach the researcher takes to the questions and the findings, illustrating with greater detail how the researcher has designed the project.

For the purposes of this study, phenomenology was selected as the most appropriate paradigm. Phenomenology, according to Groenewald (2004), is the comprehension of the meaning of action. Every action has a reaction and the action itself has meaning therefore, in studying social or psychological phenomena, we must consider why an action was taken; what motivated the action; how did this phenomena come to be; what does the action, or lack of action, suggests about the participant group sampled.

When analysing data within a phenomenological study, it is essential to remain true to facts and avoid established frameworks (Giorgi, n.d., as cited in Groenwald, 2004). The participants share their understanding of the world with the researcher when they interact and what they share becomes the research data. Shared experiences become facts which are absolute data reflecting the participants' realities (Eagleton, 1983). Heidegger and Husserl consider phenomenology the study of the 'lived-world' of the participant. The 'lived-world' is how the participant perceives their experience which to them is fact and for the purposes of research are absolute data from which the research may draw conclusions based on common or unique themes. Applied phenomenology through the examination of lived experiences (Greene, 1997; Holloway, 1997; Kruger, 1988; Kvale, 1996; Maypole & Davies, 2001; Robinson & Reed, 1998; Groenewald, 2004) reduces the external world to the contents of personal consciousness. Welman and Kruger, (1999, p. 189) describe phenomenology as understanding "social and psychological phenomena from the perspectives of people involved." In sampling, the researcher strove to identify participants who had direct and recent experience with the phenomena. In this case, the participants were teachers whose 'lived-world' included experience teaching secondary language arts or social studies. These participants were asked to share their experiences, or lack thereof, with information literacy.

Given my prior interaction with essential Alberta Education documents, especially the government mandated mandatory curriculum, I knew that these documents would provide a certain level of familiarity with the concepts and therefore the experience of the teachers would have a common element is these

documents. It stood to reason that all teachers would have recognized the need for IL skills but may possess a unique 'life-world' experience of how, when, why IL instruction had or had not been incorporated into classes. The factors affecting IL instruction would also be manifested within the 'lived-world' experience of each teacher which would provide interesting data for interpretation as common or unique themes.

Adams and van Manen (2008, p.614) describe phenomenology as the "study of lived or experiential meaning and attempts to describe and interpret these meanings in the ways that they emerge and are shaped by consciousness, language, our cognitive and non-cognitive sensibilities, and by our pre-understandings and presumptions." As such, this study sought to understand understanding. Delving into how secondary teachers interpret the curriculum expectations and how this translates to their actual practice, the interviews elicited descriptions of IL instruction that takes place within classes and IL skills consciously or unconsciously integrated into assignments and assessments. Discussion with the participants explored how the participants made sense of IL and how they would relate it to literacy; literacy as a concept was described by the participants; teacher presumptions were also explored in terms of skills they felt students had and what they felt students needed; their understanding of what they could and could not accomplish, and the reasons for this, in their classes were also explored.

Husserl's transcendental phenomenology studies the way that knowledge comes to be through participant description. It "clarifies the assumptions upon

which all human understandings are grounded" (Adams & van Manen, 2008, p.615). This strand of phenomenology necessitates a descriptive method to elicit details regarding the participants 'lived-world.' To support this approach, the interviews were semi-structured to allow for guided inquiry of the research topic but allowed sufficient flexibility to examine specific topics in-depth. Participants were also prompted to discuss learning activities that addressed the Association of College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education by being provided with a copy of the standards and time to consider how their classes address these standards. As a prompt, the ACRL standards allowed the research to delve into specific assignments engaged in the critical incident technique. This focused participant responses and yielded rich and relevant data.

Practical phenomenological psychology is concerned with the everyday life but is "sensitive to subjective and inter-subjective roots of meaning, to the complexity of relations between language and experience, to the cultural and gendered contexts of interpretive meaning" (Adams & van Manen, 2008, p.616). In consideration of this complexity, the relationship between the teacher, their understanding of IL as a concept and how IL, as defined by the ACRL standards, is related to their teaching practice was explored. How participants interpret the curriculum and make sense of what the government and what they as individual educators perceive as necessary skills for students are deeply connected to their experiences as students and teachers. Complex connections exist within the interrelated nature of IL skills and competencies and warrant examination at an

individual level with dominant themes being drawn from repeated or common experiences.

Epistemology: Constructivism

Epistemology is a theory of knowledge and determines how the phenomena will be studied (Holloway, 1997; Mason, 1996; Creswell, 1994). Constructivism, as an epistemology, is a natural partner for phenomenology. It tries to bridge the gap between explanation and understanding (Adams & van Manen, 2008) and is concerned with the relativism and subjectivism of the knowledge. Relativism is, according to Smith (2008, p.750), "all that can be said about the world is that there are different ways of interpreting it-interpretations that are time and place contingent, or relative to time and place." Therefore the ways in which teachers understand IL will depend on how they interpret the concept and how that interpretation fits within their worldview. Their teaching situation will also significantly affect their interpretation of the concept.

Since knowledge is constructed based on the participants' motivation (Costantino, 2008), it is imperative that researchers consider the individual in their study of a phenomena. In data analysis, the themes may consider the idea of 'knowledge-warrant' where knowledge is "deemed credible if there is consensus among informed and qualified persons" (Costantino, 2008, p.117) which contributes to the transferability of the findings.

With respect to a constructivist epistemology and a phenomenological paradigm, the study should be as naturalistic as possible with the inquiry

occurring in the settings where the phenomena occur. In terms of research design, interviews are the preferred method of data gathering as understanding is co-constructed through mutual interaction. The interview is researcher-initiated data generation collected through "dialogic interaction" (Costantino, 2008, p.119). Often referenced in studies of participant motivations such as teachers' planning and instructional decisions especially related to the curriculum (Costantino, 2008), constructivism allows the research to delve into the teachers' approach to making sense of concepts. Weber (Costantino, 2008, p.117) described constructivism as "action as guided by meaning and values." The actions teachers take in planning and instruction are guided by meaning and value; how they make sense of/ understand IL and what value they accord to it will determine how it will be approached within their classes.

The researcher is an instrument and cannot be removed from her own presumptions and should not pretend otherwise (Hammersley, 2000). As the researcher, I must take caution to ensure that the data is telling its own story and not one I weave for it. For the purposes of this study, data came from the articulated perspectives of the teachers who plan and instruct students. Their plans and instruction are shaped by their teaching situation and the government mandated expectations or how they have mediated the two. In their capacity as educators, they make decisions regarding what, when, how something, such as IL, will be included in their courses. Engaging or interacting with the participants helped me elicit information regarding these realities or 'lived-worlds.'

Framework of this study

Using the Williams and Wavell (2007) and McGuinness (2006) studies as basic frameworks, semi-structured interviews were used to guide dialogue and allow discussion of topics that arose during the interview process. The guide was redesigned after the first interview and was subsequently modified to improve the questions and follow-up prompts thus eliciting greater detail from the participants.

The reviewed literature overwhelmingly indicated that a qualitative approach was best suited to this study of personal experience and sentiment. A phenomenological design provided the overall framework for this study. Semi-structured interviews using a critical incident technique were used to examine teacher understanding of information literacy while providing opportunities to explore issues as they arose. Conclusions drawn from the related studies and additional sources (Saunders, 2009; Gross & Latham, 2007; Julien & Breu, 2005; Julien & Boon, 2004, 2002; Grimble & Williams, 2004; Ragains, 2001) have formed the basis for the interview questions. The following questions were designed to target teacher experiences with IL, their understanding of IL, how IL skills (in principle if not in name) are integrated into instruction, and what factors influence their ability to offer IL instruction.

Research Questions

1. How do teachers define information literacy? What skills do they believe students need to thrive in today's classroom and/or society? How do these skills vary (if at all) for students pursuing different educational 'tracks'?

2. What methods (if any) have teachers employed to instruct students in information literacy skills (i.e., as delineated by the Association of College and Research Libraries (ACRL; 2000) Competency Standards for Higher Education)? How does (or should) IL instruction differ for students in life skill programs, pursuing trades or pursuing academic education strands?

3. What factors influence teachers' ability to teach information literacy skills in their classrooms?

4. How familiar are teachers with Alberta Education (2004) 'Focus on Inquiry'? How does this document shape teachers' approaches to teaching/learning?

5. What importance do teachers accord information literacy in relation to other expected outcomes or district initiatives?

6. In what ways is information literacy instruction supported and/or not supported (e.g., staff, technology, time) in their schools?

7. In what ways (if any) is the school library/librarian integrated into instruction?

Major Tom to Ground Control: The Flight Plan

This project took approximately a year to complete. It was divided into 3 parts: a literature review and textual analysis completed in Spring/Summer 2010 but with ongoing revision; a pilot study completed as the major assignment for LIS 597, Advanced Research Methods; and the thesis project completed in Winter 2011.

Each phase of the study contributed to a more comprehensive understanding of the research questions. By breaking the study into overlapping

layers of complexity, I was able to focus my attention on one area at a time and in some cases use the retrieved information to improve subsequent steps. The literature review, completed as an LIS 599 independent study course over the summer 2010, formed the basis of the study while the pilot study, completed for LIS 597 Advanced Research Methods in Fall 2010, offered me the opportunity to test my interview script with my three participants, practice my interviewing technique, and analyse preliminary data to identify preliminary themes. These initial themes were explored in subsequent interviews and, in fact, permitted a greater depth of discussion. For both the pilot study (Fall 2010) and the subsequent bulk of the thesis (Winter 2011), the steps followed were similar. However, the steps were considerably smoother for the latter. In the following description of my research journey, the steps and results were consistent in the pilot phase (Fall 2010) and the thesis (Winter 2011) phase unless otherwise stated.   Differences will be acknowledged by clearly referencing the particular phase of the study that varied.

Ethics

Due to the human discourse sought for this study, ethics approval was requested from the University of Alberta's Education, Extension, Augustana, Campus Saint Jean Research Ethics Board (EEASJ REB). There was no foreseeable harm to participants and therefore this study qualified as a minimal risk research study.

The ethics process proved to be an exercise in repetition and frustration. However, it encouraged the clear delineation of the process to be followed that ultimately had a positive influence on the implementation of the project. The Human Ethics Research Online (HERO) form was completed online and with supervisor feedback, was submitted, reviewed, modified and approved by September 2010. A subsequent amendment in October 2010 modified

recruitment plans to allow me to recruit using the Graduate Student Association listserv which had not been accounted for in the original proposal. In November 2010, I replicated the ethics application from the pilot study with changes to the dates, the inclusion of listserv for recruitment, and the addition of the Grande Prairie Public and Calgary Public School Boards as possible areas for recruitment. The second phase of the ethics approval was granted with no revisions required and was completed by December 2010.

For ethical reasons, provisions were outlined to protect the identities of the participants thus each participant was assigned a pseudonym at the time of data collection. Information and consent letters were provided at the time of the interview. Copies of the consent form and the information letter were kept by both the researcher and the participant. All interviews were digitally audio-recorded and saved to an encrypted file on the researcher's computer. The transcripts, which were kept in the same secure folder, were transcribed into Microsoft Word. Hand-written field notes, labelled with the participant's pseudonym, were kept in a locked filing cabinet, with the master list kept in a separate locked filing cabinet.

Participants and Recruitment

Participants recruited for this study included teachers defined in this study as professionals with Education degrees who instruct students according to their government mandate. Teachers accepted for participation were those who had experience instructing grades 7 to 12 language arts and/ or social studies in Alberta using Alberta Education curricula.

A purposeful sampling of 8 participants included the participants recruited for the study although the goal was 12-15. The heterogeneous nature of teachers' backgrounds and teaching situations created a diverse range of data and therefore a reasonable population was required to identify common elements and track a range of attitudes. In order to limit variables, only teachers with experience as grade 7 to 12 teachers in the aforementioned disciplines were asked to participate. Recruitment targeted participants who "had experiences relating to the phenomenon to be researched" (Kruger, 1988, p.150). Due to the time constraints of the study and the difficulty of recruiting, only 8 participants were interviewed, but this number yielded an abundance of data and was adequate for a phenomenological study (Creswell, 1998; Boyd, 2001). Although a larger number would have yielded more data and would have drawn stronger conclusions, the 8 participants furnished an astonishing amount of data for a novice researcher to wade through.

Participants were recruited from the Faculty of Education at the University of Alberta and the Grande Prairie Public School District. The first phase of recruitment began in October 2010 and there was insufficient time to complete the CAPS process so I targeted the Faculty of Education to recruit participants for the first few interviews. Graduate students in the Faculty of Education programs are expected to have a minimum of two years teaching experience and were an accessible population for the researcher. However, recruiting on campus proved to be very difficult. Posters (see Appendix A) mounted in common areas in the Faculty of Education building yielded no participants. An advertisement on the Graduate Student Association listserv (see

Appendix B) succeeded in identifying 3 participants who possessed the requisite professional background. Letters on initial contact (see Appendix C) were sent to graduate course instructors with a request that they forward them to their students who could contact the researcher if they were interested in participating. Snowball recruiting was also employed but potential participants were asked to contact the researcher to express their interest in participation. After 2.5 months of recruiting, 3 participants were found and interviewed. This phase of the study furnished sufficient data for the completion of an advanced research methods course in the School of Library and Information Studies (SLIS). The results were also shared at the SLIS Forum for Information Professionals in February 11, 2011. Beginning in December 2010, I began the second round of recruiting but targeted an urban school district in northern Alberta.

For the second phase of the study, I returned to the school district where I taught. I used my personal connections to identify and contact language arts and social studies department chairs. Letters of initial contact (see Appendix C) were provided to the school district department heads in Grande Prairie. These letters were forwarded to potential participants. All participants who volunteered were asked to read the information and consent letters (see Appendices D and E) and were briefed on the contents of each at the time of the interview to ensure that they were willing participants.

By signing the consent forms, participants acknowledged that they were giving their permission to be interviewed and that a copy of the information letter and a signed copy of the consent form have been given to them and one

copy has been kept by me. The information letters distributed beforehand and provided at the time of the interview discussed the purpose of the research in explicit terms, detailed the data collection, retention, and destruction plans, as well as the process for withdrawing from the study. The essential information related to the participants' role and expectations were reiterated in the consent form.

Despite a desire to collect as much data as possible, I was concerned that participants might feel pressured to participate as the letter was forwarded from their department heads. All participants signed consent letters and attested to their willingness to participate.

The interviews ranged in length from 20 to 60 minutes, with most averaging approximately 35 minutes. The interviews were conducted at a mutually suitable location; five of the eight interviews took place in schools where the participants were actively employed. The in-school meetings all took place in the teachers' designated classrooms. A meeting room in the School of Library and Information Studies was booked for the three interviews with graduate students. Interview times and locations were arranged through e-mail or over the phone. I sought to encourage discourse in a comfortable environment therefore the choice of location was ultimately made by the participant. The interviews took place between October 15, 2010 and February 25, 2011 in Edmonton, Alberta and Grande Prairie, Alberta. Edmonton participants were graduate students in the Faculty of Education who held (or recently held) positions as language arts and/or social studies teachers. Grande Prairie participants were currently employed as language arts and/or social

studies teachers. All participants reflected on their experience teaching at the secondary grade level.

A digital audio recorder was used during the interviews and I also took extensive field notes. The audio recordings were saved to a password-protected, encrypted computer folder and field notes were kept in a locked file cabinet. The master file that contained each participant's full name, their phone number, their e-mail address and their assigned pseudonym was kept in a separate locked file cabinet and was destroyed following data collection. Contact information was kept for participants who expressed an interest in receiving a summary of the data. The data, including audio files, transcripts, and aggregated data, will be stored in an encrypted folder on a password protected USB flash drive in a locked filing cabinet for a period of five years following the completion of the study. All data have been filed and saved under the pseudonym assigned to the participant and will be retained until the five-year requirement has been met at which time all data will be appropriately destroyed.

Rigor

Reflexivity

In order to ensure the quality of the findings, several elements of rigor were assessed. In the interest of one element, reflexivity, I will acknowledge that as the researcher I am biased by my personal investment in this project! In terms of data analysis, there were occasions where the participants' comments or body language indicated that the presence of a 'librarian' may have influenced their comments (see chapter 4). As an instrument in the research process, personal perspective will play a role in the research process as a whole

(Saumure & Given, 2008) and I have attempted to illustrate this where appropriate in this and subsequent chapters. Reflexivity was especially important for the related reliability (Miller, 2008) and confirmability (Jensen, 2008) during data analysis where the notion of époche required bracketing personal presumptions and letting the data speak for itself without researcher-imposed meaning. In order for this to happen, I had to consider how I would impart my own assumptions onto the data and had to, as much as was possible in qualitative data explication, disassociate. In qualitative research, a complete disassociation from the data during analysis and interpretation is impossible (Miller, 2008). As a human being with unique perspectives, a researcher cannot be completely removed form the process. How one makes sense of the data packets, identifies themes and draws conclusions is based upon their knowledge and understanding, their skills and process, their values and their attitudes. With that in mind, every effort was made to ensure the quality of the results and to let the data speak without imposed meaning. Therefore, elements of rigor were considered during the planning, implementation, and dissemination processes of this study.

A few specifics

Due to the differences in curricula from province to province and country to country, the results of this study transfer specifically to schools in Alberta. However, in jurisdictions with similar documents and processes, the results may also be transferable to other schools and teachers. Since the purposeful sampling included only those with experience teaching grade 7 to 12 English language arts and social studies, the results are limited to those who teach that population.

Although it is likely that many teachers will face similar experiences, this study does not claim to offer an absolute insight into all teacher experiences but will explore the experiences of a few to identify trends among the representative participant experiences. In order to attempt to identify trends in the experiences of a professional group, the study has focused on a somewhat narrow population. Teacher participants had few limitations on them personally in terms of their demographics (eg., age, amount of experience, role in the school, extracurricular or professional development activities, and so on…) and it is assumed that many of the influences raised will be reflected in many schools. Themes drawn from the data were grounded in the content from the interviews and are discussed in Chapter 4. There is little existing research specifically in this area necessitating the use of a specific participant group to develop a foundation before examining additional factors such as subject area taught, participant geographical location, or demography. The study assessed the current education policy at this current point-in-time which is subject to change with increased experience with the curriculum and ongoing changes to education policy.

Interview Guide

The interview script (see Appendix F) was created using findings from related studies to form the questions. The interview questions were modified following the first few interviews to better elicit the appropriate data. Changes were made to the vocabulary used, the types of questions asked and the format of the interview, although the content of the final interview script was substantively the same as the original. The Association of College and Research

Libraries (ACRL) Information Literacy Competency Standards for Higher Education were added to support critical incident technique questions (see Appendix G). The critical incident technique is a qualitative research interview technique based upon "retrospective self-report" (Borgen, Amundson, & Butterfield, 2008, para.2). In order for the technique to be properly employed, the goal of the activity was explained, the parameters of the 'incident' were detailed and the standards were supplied as a prompt for the participants, and the subsequent data was collected. The same inductive data analysis used for the majority of the interviews were applied and the resulting data either formed their own themes or supported the more dominant ones. The "theoretical agreement" between the participants and the literature indicates that the resulting data is credible (Borgen, Amundson, & Butterfield, 2008, para.8).

There were, however, several issues that arose in using this technique. Complications arose in the first two interviews with the use of the critical incident technique used to elicit specific details regarding IL practices in instruction and assessment. Since one instructional activity was too limiting in terms of standards covered, the participants in subsequent interviews were given a copy of the standards and asked to consider to what extent they covered the standards in the classes. Participants shared details regarding how they incorporated the standards into their classes and the frequency with which they did so. Their perceived degree of success and factors that affected their inclusion of the standards was also discussed.

Data Analysis

Data analysis/ Explication

Data analysis was difficult as most handbooks were reluctant to prescribe step-by-step approaches to phenomenological data analysis (Holloway, 1997; Hycner, 1999). Being a novice researcher, this was very frustrating as I waded through the data and often felt like I was drowning and there was no life raft in sight. Respecting the integrity of the data, a specific method of data analysis cannot be imposed (Hycner, 1999, p.144). Analysis as a word was avoided where possible. Explication was generally preferred by phenomenologists. Analysis suggests parcelling the data into packets which removes the meaning of the phenomenon. Explication, as described by Hycner (1999, p. 161), examines the "constituents of a phenomenon while keeping the context of the whole."

Miles and Huberman (1984) recommend starting with a conceptual framework. Creating 'bins' with descriptive or inferential names that represent the units of meaning found in the literature or data, the researcher illustrates the relationships and interrelationships between the units of meaning. Frameworks can be developed from theory, experience, and the objectives of the study and may be represented in graphic or narrative form. The conceptual framework should clarify key factors or variables and presumed relationships. Establishing a conceptual framework based on literature or theory prior to data explication is not sound practice for phenomenology. With a phenomenological study, the researcher should not impose meaning as the meaning should arise from the data therefore the conceptual framework should come from the data and should

not be created beforehand. Units of meaning and subsequent themes will come from the data once explication has begun. Although a preconceived conceptual framework would have aided data analysis, it would not support data explication.

The process used in this study was similar to that of Groenewald's (2004) description of Hycner's (1999) process. The steps involved bracketing and phenomenological reduction, delineating the units of meaning, clustering the units of meaning to form themes, and extracting general and unique themes from all interviews and making a composite summary (Groenewald, 2004, p.17).

First, bracketing and phenomenological reduction required the researcher to remove presuppositions, suspend judgement, attempt to prevent the imposition of researcher meaning, interpretation or theoretical concepts on the world of the participant (Creswell, 1998; Moustaka, 1994; Sadala & Adorno, 2001). "Bracketing" the researcher's personal views, understanding, or preconceptions (Crabtree & Miller, 1992) attempts to minimize the possibility that the researcher will impose their own interpretation on the data prior to examining the data as independent of personal perspective.

According to Adams & van Manen (2008), bracketing or epoché is key to transcendental phenomenology in the reduction of the data. The data is 'reduced' to "achieve direct and primal contact with the world as it is experienced rather than conceptualized" (Adams & van Manen, 2008, p.617). The researcher, in explicating the data and reducing the data to units of meaning, "bracket[s] lived experience to experience meaning." Groenewald (2004) suggests there are two stages of bracketing in phenomenological data

explication: first, the researcher brackets their presuppositions and second, the researcher brackets the data to reduce the data to units of meaning.

Second, delineating the units of meaning identifies statements that "illuminate the researched phenomenon" (Groenewald, 2004, p.18; Creswell, 1998; Holloway, 1997; Hycner, 1999) thus creating a list of units of relevance. Starting with the manifest content, this stage of explication examines the number of references to a meaning and the implied significance of that meaning, including how it was stated which is often as important as the statement itself (Groenewald, 2004, p.19). Field notes were essential to this stage of the explication as non-verbal cues were indicative of participant perception.

Third, clustering the units of meaning to form themes occurs when the researcher elicits the meaning of units within the holistic context (Groenewald, 2004, p.19). With presumptions bracketed, this step requires the researcher to use "creative insight" (Colaizzi, as cited by Hycner, 1999, p.150-151; as cited by Groenewald, 2004, p. 19). This step requires the researcher to examine the list of relevant units of meaning created in the previous step. Units of meaning are subsequently grouped together to identify significant topics (Creswell, 1998; King, 1994; Moustakas, 1994). In this stage, the researcher seeks to identify the "essence" of the clustered units of meaning (Hycner, 1999, p.153).

A fourth step, summarizing interviews for validation and possible modification, was discussed by Groenwald (2004) but was not effectively covered in this research. In this step, summaries of the interviews are prepared by the researcher and sent to the participants for their input. Participants are

asked to either confirm the summary or elaborate on any points they feel misrepresent their experience or were not clearly explained in the summary. The participants in this study were contacted following the interview but the response rate was approximately 25% and these participants expressed their preference to 'trust' the interpretation of the researcher.

The fifth step is extracting general and unique themes from all interviews and making a comprehensive summary of each theme. Themes common to all interviews were targeted first. Pursuant to the identification of the dominant, universal themes, the unique themes were explored. Unique themes provide important insight into the lived-world of the participant and deserve to be examined (Groenewald, 2004). Summarized descriptions of the themes "must reflect the context or 'horizon' from which the themes emerged (Hycner, 1999; Moustakas, 1994). According to Sadala and Adorno (2001, p. 289), the researcher must translate the colloquial expressions of the participants into academically appropriate expressions to the "scientific discourse supporting the research." The researcher must transform the data, go beyond the stated expressions, and use 'creative insight' (Colaizzi, as cited by Hycner, 1999, p.150-151; as cited by Groenewald, 2004, p. 19) to draw meaningful and rich descriptions of phenomena. The researcher is, in essence, using the data to theorize.

Data analysis was done using NVivo. Themes were grounded in the interview content in that the participants' words were used for coding and these terms were identified as manifest content from which themes were identified.

Manifest content targeted recurring keywords, for example, literacy, information literacy, inquiry, research, and curriculum. Latent content themes, drawn from the manifest content identified in interview data related to, for example, IL instruction, support/ barriers, student ability (perceived), definition/ scope of IL, lessons/activities. The connection to information literacy was drawn by the researcher who related the data to the ACRL information literacy competency standards for higher education.

To identify the manifest content, a pattern coding approach was used (Miles & Huberman, 1994). First-level coding summarized segments of data which was then grouped as summaries into sets, themes, and constructs. This approach allowed the reduction of a substantial quantity of data into a smaller number of analytic units (Miles & Huberman, 1994). Pattern coding allowed an involvement with the data to a greater extent and allowed the development of a concept map illustrating the taxonomy of codes and their relationships. As this study was approached from a constructivist paradigm; the researcher was considered an instrument with subjective presumptions therefore a greater degree of granular, objective analysis of the data was especially important. Being immersed in the data permitted a better understanding of how the themes were related with the goal of grounding the themes in the participants' natural language. Another reason for this approach was the possibility that, as an instrument, the researcher would impose meaning on text if the codes were created prior to transcription. All efforts were made to keep true to what came out of the interviews and to draw inferences from common themes.

Chapter Four: Results and Discussion

Introduction

The 8 interviews yielded an enormous quantity of data for analysis. Data explication yielded several dominant themes that connected strongly to each other and to the literature reviewed. In examining how teachers understand IL, it was important to explore their definition of IL as a concept and the scope of skills included within their understanding of it. Their perception of student IL need, as well as IL skill acquisition were embedded through the interviews as these perceptions guide planning, instruction, and assessment. Specific requirements for successful IL instruction included the unanimous agreement that these skills, and all instruction in general, ought to be relevant to the students. Resources, both the tangible and intangible, available to enhance or restrict the quantity or quality of IL instruction activities offered were discussed. Library staff and the role of the library were discussed where possible but the limited teacher experience, except in one case, created a theme related to the lack of interaction and tied intrinsically to the perception of student need, the need for relevance, resources, and support. Finally, Alberta Education mandates were another prominent theme. Central to planning, instruction, and assessment, the curriculum outlines what students are expected to know and be able to do at specific academic levels. As such, these policies are directives for the teachers and the inclusion of IL within these documents clearly demonstrates an understanding of the essentiality of information literacy skills for Alberta citizens.

Understanding of Information Literacy as a Concept

"Uh, I got an idea what it is but… I'm not sure."

To comprehend how teachers incorporated information literacy (IL) into their classes, it was necessary to delve into how teachers understood IL as a concept. Bruce (1997) found that teachers often saw only three of the seven faces of information literacy. Allen (2007) argued that incorporating the remaining four faces was necessary to move into the 21st century. Hypothesizing that teachers assume students are adept with technology, Allen (2007, p. 23) suggests that minimal formal education occurs as a result of this assumption and that teachers tend to treat technology education with the purely technical as opposed to teaching technology-related information use skills.

Moore (2005) notes that IL is evolving into an integrated, comprehensive, inclusive skill set that is necessary to support information needs of the new technology-focused information age. All participants saw IL as fitting under the umbrella of literacy and being an integral part of literacy itself. The scope of literacy spanned from the broad to the narrow; from "being able to find information" to "some aspect of multiple literacies" and a "holistic view." One participant, Tom, a grade 8 language arts and social studies teacher with over a decade of experience, described his understanding as:

> I'd subscribe to the UNESCO definition that global range of abilities in a global range of contexts. Everything from numeracy to literacy, to reading comprehension to technology, whatever your field is. Every field,

every area has its own inherent literacies and I think that the definition

of literacy is becoming a little more broad to encompass those.

There was an assumption that IL was interconnected with and inseparable from other literacies which supports the shift to an integrated, holistic understanding of IL. Rosie, a graduate student with 2-years teaching experience in high school, for example, stated that "if you are looking for information, can you also read and incorporate visuals." There were distinct differences in the emphasis on product as opposed to process. Participants' responses varied but critical thinking and effective communication were highly valued. Critical thinking skills were heavily incorporated into the understanding of IL. Fred described this as "someone who is critically aware of all of the ways to find knowledge, to access information…and is able to interact, use, manipulate those to their advantage." The final 'product' was also emphasized by Kate who, for example, described her understanding of the goal of literacy and information literacy as: "To communicate effectively, whether it's verbally or written, um, orally, non-verbally even I think." Allen (2005, p.22) described IL as 'learning' and cited the Middle States Commission of Higher Education (2003) who described IL as a "metaphor for the entire learning process." This approach to learning embraces IL as a fundamental set of skills that support lifelong learning.

Inconsistent understanding of literacy as a concept suggests that terms used for these fundamental skills may be problematic. In examining how participants make sense of a concept, inconsistent comprehension of that concept introduces a host of issues. The lack of agreement regarding the definition and scope of the concept is in itself a dominant unit of meaning in this

study. Literacy and subsequently information literacy were inconsistently defined although participant non-verbal communication indicated a lack of confidence in the response given for both. Participants often shifted, cleared throats, or clasped their hands together and looked away as they provided their understanding of literacy and IL. IL descriptions were often followed by a non-committal, somewhat excusatory statement such as "I'm not sure that answers your question" (Dwight) or "Uh, I got an idea what it is but… I'm not sure" (Bernie). Seven of the eight participants were unsure of what IL was and indicated they had not heard the term before but all were willing to offer what their understanding of what the phrase may indicate and what skills may be included in this literacy. One of the eight participants was familiar with the ALA definition of IL and he fully supported the inclusion of IL within core curriculum. His interview was especially interesting because of his sophisticated understanding of IL and his clearly articulated perception of the barriers he faced in promoting IL within his teaching situation. Fred, a teacher and former administrator, had taken courses in library science to support his language arts and social studies instruction. With this academic background, he was able to work as a teacher librarian which gave him a deeper understanding of information literacy. His current committee work is focused on reconceptualising the role of the school library in Alberta Education. Moore (2005, p. 9) suggested that teachers' IL skills may be low and thus they are not aware of or do not understand these skills in the same way that those in the LIS community might. Due to their own potentially low IL proficiency, teachers are not likely to teach these skills to their students. Participants described their

understanding of IL as often limited to, for example, "um… Understanding information. How to get it. I think, that's probably… [pause] …understanding where to get information and how to use it" (Dwight). Bernie, a veteran teacher with over 2 decades of experience as a junior high teacher, described IL as "Um, being able to use information sources to get what you want to get for information. Research." Another participant, Kate, stated that to her IL "makes me think of being, I guess, literate of, literate in the way of all the information that is out there. Like knowing, what as far as sources are out there, what I can find as far as different information sources."

Given the frequent use of the term information literacy in LIS literature and the expectation that education as a field will see the value of these skills, it may be necessary for the library and information studies field to consider a more comprehensive, or even less comprehensive, term to represent what this field knows as information literacy. However, this may be ineffective due to inconsistent understanding of the broader, more universal term 'literacy.' Alberta Education documents, such as *Framework for Literacy*, and Alberta Advanced Education and Technology's (2009) *Living Literacy: A literacy framework for Alberta's next generation economy*, indicate that a holistic understanding of literacy, which includes many elements of IL, is being promoted within the province. Information and Communication Technology curricula are increasingly integrated globally in education (Allen, 2007). In its capacity as a curriculum, ICT supports the development of IL skills with a technology bent which is imperative in this digital age. However, as Allen (2007) also noted, teachers may view instruction around technology as strictly technical

and may overlook the technology as a tool to develop deeper information seeking and use skills. Nurturing a sense of IL as a learning process and technology as a legitimate vessel to deliver those skills will enable teachers to meet the learning needs and facilitate lifelong learning skill development in their students. The recent emphasis on the *Focus on Inquiry* (Alberta Learning, 2004) and the explicit references to inquiry in the social studies program of study indicates that the province is supporting on-going and enhanced information literacy instruction.   Further discussion of this issue can be found in the discussion of the curriculum as a separate, yet interrelated, theme found in the data.

Information literacy skills, both those identified by the participants in describing their understanding of IL and in examining the ACRL (Association of College and Research Libraries) standards, were clearly seen as important. The pervasive nature of the skills was noted by Bernie who stated that, in examining the ACRL standards, "Yeah, well, those are involved in just about everything that you [teachers] do to some point." Kate commented that early exposure to IL would benefit students in the long-term:

> I think the more exposed they are to it at a younger age the more prepared they will be to use it in like high school and post-secondary because I think that if I had those skills by the time I would have entered post-secondary, be it college or university, I would have been way more prepared to write my first college paper.

All participants felt that these skills were valuable for students but all described factors that influenced their ability to offer information literacy. Their understanding of the skills needed and the sophistication of those skills was dependent on the cognitive and academic levels of the students although one

participant deviated from this stance and stated "it's all pretty much the same. My kids' research will be pretty much the same as the [students] in any other junior high in town" (Bernie). Even within these groups, discrepancies exist (Moore, 2005). Participants felt, unanimously, that all students needed to locate information but also make sense of what they found. Tom stated that being "able to pull information effectively out of a medium, whatever that medium is, that, I think, is critical so whatever information it is that they need to access, they have to be able to find it and make sense of it. Sometimes it's just direct referencing, sometimes it's more inferential, I guess." Understanding the information within context was also identified as an essential skill. Kate commented that students "need to be able to gather their own information and put things into their own words." It was important that they be able to "make it relevant to them, being able to take something that they read and not just regurgitate it but make it meaningful and being able to apply it to the real world, real life situation" (Kate). Developing a sense of relevance for the students was a prominent theme in the data and is discussed later in this chapter.

Rosie's analogy for the importance of information literacy instruction, especially for the effective and efficient use of technology, was particularly striking.

> For some reason, we make this assumption that you know kids these days don't need our help with technology but that's like assuming that because I was born when the car was already invented that I don't need to learn how to drive, right. They absolutely still need to learn how to use these things.

Her sentiment was echoed by other participants who commented on their own assumptions or how they saw this lack of student proficiency as a weakness

but were unable to address the discrepancy they may have observed. Perceived inability to address these discrepancies may be due to the possibility that the teachers themselves may lack these skills (Moore, 2005) and thus feel ill-equipped to offer IL instruction. Dwight, a language arts and social studies teacher with over 5 years experience in junior high and high school, commented that students often "are not really aware of all the information that they are getting." Students, several participants noted, often passively accept the information that is easily found and they do not question the validity of reliability of the resources. On the importance of information literacy skill, specifically identifying information sources to address information needs, Tom commented:

> Back in the day we had *World Book* [*World Book Encyclopedia*]. You know. And it was a trusted source so you didn't have to worry about where your info was coming from but nowadays there are so many sources and so many of those sources can be extremely misleading and often dangerous. Kids have to be able to sort through that. (Tom).

This also suggests that teachers may passively accept information from a reputable source which is not best practice either. Although one assumes that the publishing process guarantees a certain quality of information, the reader ought to interact with the material in such a way that they create connections to the content and form their own opinions thus constructing knowledge and understanding. The passive receipt of knowledge does not encourage the critical discourse necessary to establish deeply rooted connections to the material being studied.

Understanding of Student Information Literacy Needs

"Depending on whether or not they were on a university track..."

Acquiring information literacy (IL) skills was seen as a lifelong process but the IL expectations varied by 'track' or need. The participants taught a range of grades and academic tracks and described modifying their instruction depending on what skills they felt were necessary for that track. Allen (2007, p.23) also noted that the approach to ILI was inconsistent from grade to grade. Students, therefore, may be developing enhanced IL skills at lower grades but may lose those skills by the time they reach higher grades as they may not be taught, reinforced or enriched (Allen, 2007). The teachers' focus in terms of necessary skills varies as significantly as perceived student ability. Despite curricular mandates to teach these skills, teachers may not be approaching IL in the most constructive way. This is likely due to a lack of awareness regarding IL in general and as a process of learning.

Based on the participants' data, there was a different type of instruction for "real-world versus how to do in-depth research questions" (Betty). Betty, for example, offered "more difficult research for the older and more academic students" whereas for less academic programs, such as remedial or special education course "information literacy would be more along the lines of finding information in day to day life versus how to find answers to more abstract questions." When asked about teaching the legal and ethical use of information, Rosie stated that she "only did that with the more academic streamed classes." One participant varied her instruction "depending on whether or not they were on a university track or if they were on a track where they wouldn't even be getting a diploma, just a certificate of high school completion. This does not correspond to the low proficiency rates of students who enter post-secondary

education which indicates that the students, even in academic streamed programs, are not acquiring sufficient IL skills.

The community demographics were a contributing factor to how the teachers perceived student IL needs. The perception of the community as a whole was mentioned by several participants whose comments indicated that they would vary the instruction they offered and the resources they would incorporate based upon what they felt the students who lived in that community would need. Rosie discussed two very different teaching experiences. One was at a high school where a "majority of students were headed towards university" and thus the students were very motivated to learn. Another school had a different demographic with "students with learning disabilities or behaviour disorders" where many of the students were "interested in going to the trades; many at risk of not completing high school." These two dynamics affected the way she approached ILI and instruction in general. Another participant dealt with a transient population with inconsistent attendance patterns. This caused unique issues in her school as students were less invested in their studies and faculty were "just trying to get a handle on some of the issues in the school." As Pajares (1992) noted, teachers are likely to teach what they value therefore their perception of what their students need will no doubt affect what they choose to teach and the extent to which they will focus on specific content or skills. Although each student may have very distinct needs, teachers are often unable to attend to the individual and instead must identify common threads within the class to cater to. With that in mind, what the teachers assumed would most benefit their students became their priority.

Understanding of Information Literacy Skill Acquisition

"If they need that in order to survive…"

There was an assumption that students would acquire IL skills as they needed them with the prevalent presumption that having a personal motivation for acquiring IL skills was a mediating factor. Moore (2005, p. 7) described this disengaged approach to ILI as learning by "osmosis." Betty described this phenomenon as "the ones who were going off to university most of the times were smart enough that they could, that they had picked up along the way." Fred echoed this sentiment:

> A need to access information and because of what they're engaged in or why, they are constantly having to evaluate sources. Those who are pushing for scholarships and those who are planning to attend post-secondary institutions and need certain GPAs, etc… perhaps their ability is going to be a little bit higher because they have been forced out of need.

This was also connected to the assumption that students going on to academic pursuits would need enhanced IL skills. Despite their assumptions that students who needed these skills would acquire them as they were needed, this passive approach does not work because, as the literature indicates, not all undergraduate students possess adequate IL skills. Moore (2005) found that students at all levels had a range of skills that did not correlate with age or need.

Need and drive were used by the participants to describe how IL skills were acquired. Fred stated that the IL skill of students is "dependent on their own, self-efficacy and what they see as the need for them to possess those skills. If there's no need, no drive to do so, if they need that in order to survive in their social world or in their work world, or in both, then they'll develop some of

those skills." Perhaps he is right but this suggests that a 'need' must be nurtured in order to encourage skill acquisition. This indicates that teachers, presuming that students, out of need, will eventually acquire these skills, are not taking ownership of this knowledge and imparting it onto students. This necessitates drawing attention to an issue they do not see as all that important in the grand scheme. The general lack of understanding regarding IL suggests that teachers are not familiar with the value of these skills therefore they do not advocate for learning opportunities for themselves so that they may improve their instruction for their students. An overall lack of awareness seems to be the fundamental issue here.

Student backgrounds were as important as community demographics in shaping teachers' understanding of IL needs. Students from higher socio-economic classes were seen to have better access to information technologies but it was understood that, even though access might be improved, their ability may not be. Fred believed that on occasion, those who "don't have access at home and are taught through the school how to get access and things will do it better because they don't waste so much time." This presumes that IL skills have been taught, not passively acquired with need. Exposure to technology does not create sophisticated information users. As Allen (2007) and Julien (2009) note, students may be tech savvy but they are not information savvy. The two are not mutually exclusive but they are neither are they interchangeable.

For Fred, students' age was a determining factor. Cognitive ability influenced literacy expectations as "a pre-k, kindergarten aged student who's at that kind of conceptual level of understanding, hasn't got a lot of that abstract

thought happening" and the instruction would be substantially different for "the students approach[ing] that 12-13-14 year range where abstract thought starts to become a part of their reality, allowing for differences in gender as well." Participants agreed that students needed the same skills but acknowledged that unique differences in the students themselves would affect the degree of proficiency required. For example, the following participants commented that student skill and ability would vary significantly:

> Dwight: I think that every student needs to be able to understand what they are looking at, um, but can every student understand at the same level what they are looking at? Should they be looking at the same thing? Probably not. So, what could work for some students for information and comprehension might not work for another but I do think that every student does need to understand the different mediums and be able to work with them all.

> Tom: It all depends on the student. Um, I think for some students, simply that you can teach them the skills but the level at which they utilize them won't be the same. There's better hockey players, there's worse hockey players; there's better readers, those who are more literate in different contexts than others.

> Kate (on having similar expectations for all students): Yes, but I think at different levels because obviously not all students are going to be able to do that to the same degree. I think we have students that are at different, are able to do that to different degrees, um, clearly with different materials. We have students that are going to be able to do it at different levels.

Perceptions of student skill were also fairly consistent which was interesting given the study findings indicating that students are lacking these skills (Gross & Latham, 2007, 2009; Julien & Barker, 2009; Moore, 2005). Overall, participants felt that students could locate information relatively well. Dwight commented that students are "are pretty competent with the computer and making searches and stuff" and Tom commented that "they have great informal skills" meaning that students could perform quick searches and use

readily available sources like Wikipedia. Bernie commented that students were overall fairly proficient at locating resources but that "Sometimes they get stuff that's not really, not necessarily appropriate but for the most part, most of the kids are pretty good at it. They've had enough practice up to now that by grade 9 they can usually find what they need." This is not, however, in accord with the Julien and Barker (2009) findings which suggests that teachers may not be aware of their students' actual skill levels. Perhaps this is because, as Allen (2007) discovered, teachers often only see three of seven faces of Bruce's (1997, 2003) description of information literacy.

However, several distinct weaknesses or gaps in knowledge were identified. Prominent issues noted by the participants were referencing, evaluating validity, identifying multiple sources, and supporting arguments with information. Tom commented that "when you ask them to formalize it, what would constitute validity, they have no clue." Dwight noted that students lack patience and "they expect to find things immediately so they are not very good at scanning or, you know, going through text to find what they are looking for." In terms of how this affects their school work, Dwight went on to say that:

> I think it's that immediate gratification that they are looking for and they just don't have patience it seems to look through a text to find it. Um, so even when they come to websites or anything, they're always going to sites like ask.com or something that is going to answer their question directly rather than a general site that might require them to look through it some.

Being able to analyse, interpret and synthesize information to create new understanding requires higher-level thought processes and active engagement with the content, which some students may not be motivated to do. As

previously mentioned, students want that immediate gratification thus they may be unwilling to invest the effort requisite to properly inquire. Gross and Latham (2007) also found that the students' emphasis was on the end-product and not the process required to complete the task. This ties back to students' motivation for the inquiry; if they are not personally invested in the work, the effort invested in the process and the quality of the final product will suffer. This idea of what students need as life and academic skills and what they are capable of in terms of ability is a logical consideration in lesson planning but this does not resolve the issue that a significant gap in IL exists.

Making Information Literacy Skills Relevant for Students
"They are focused on what is important to them…"

In addition to student need driving skill acquisition, the participants in this study believed that relevance was crucial to information literacy instruction (ILI). Developing a sense of relevance for the students was critical to all instruction, not just ILI. Betty, a comparatively recent graduate with 2 years teaching experience in high school, noted that: "If you couldn't make it interesting or relevant or applicable, they would leave. And it was easier to do that with the kids in the special ed classes because you weren't expected as much to get through the curriculum, you could kind of talk about what you wanted." Targeting student interests allowed her to incorporate skill instruction into class with a greater chance of success. Fred also commented that "if kids start to sense that they're doing, going from A to B only because they have to get to C, they quit. Or they lose interest. Whereas if you can connect it to them and what they need and why they are doing it." It was imperative that students

understand why they are learning these skills and, in return, the skills needed to be relevant to them and what they were doing. Participants commented on selecting topics that might capture the interest of their students, being flexible in their planning, and being open to pursuing activities based on elements that clearly interested students. Bringing in content or tools that students would see as worthy of their time and effort was important but herein lies the problem. Finding these points of interest can be very difficult, especially with large groups and limited resources. Some of the suggestions that participants offered included Web 2.0 tools, such as Google LitTrips, and current events, especially the more risqué events and ones of global interest. If IL were approached as the process by which learning occurs (Allen, 2007), teachers and students would inevitably invest more effort in acquiring, enhancing and extending these skills. Fred described student priorities as: "they are focused on what is important to them and what impacts, those things that are important, at the exclusion of all else." He noted that this was an extreme frustration for him and other teachers but noted that this was not likely to change so teachers would need to adapt their approach.

Establishing relevant connections to all aspects of the classroom is a logical endeavour for all teachers. This becomes especially difficult when seeking to connect the curriculum to the students' lives. By making the knowledge and understanding, skill and process, and value and attribute outcomes relevant to students, the curriculum is thus vivified. Dwight articulated his struggle as follows:

I feel there is a motivation issue with some inquiry. We try to use it. It gets a little bit better with the grade 8s but with the grade 7s it's quite tough. It does frustrate some students who are like 'just tell me what I need to know.' And so we try to do some inquiry. I wouldn't say it's everything that we do; we're trying to put it in more but it's equally frustrating for teachers trying to get them to understand the material when they are not motivated. They key behind inquiry is that they want to find the answer and if they don't want to then it's... you still have to get that knowledge into them.

By incorporating inquiry into core courses, it is expected that student interest in the content will be enhanced. It is anticipated that they, students, will be provided with opportunities to engage in the content in a more personally meaningful way thus creating the relevance needed to instruct essential information literacy skills. However, engaging students in activities that will engage them is not an easy feat for teachers. Alberta Learning's (2004) Focus on Inquiry is a step in this direction but the sheer number of students in a classroom and their wide array of personal interests complicate planning activities and oversight of individual inquiry activities. In attempting to offer opportunities for students to explore topics of personal interest to them, the teacher must be flexible in the topics chosen and must be willing to invest extra time and effort to support students and their interests. This is desirable in an educator, but with the existing strain of the occupation, may be too great a burden on some. Students will need to be kept on track and their topic must be appropriate for the classroom which may negate some the individual interest aspects of the inquiry process. The "frustration" Dwight spoke of was connected to the limitations of what one teacher can do for approximately 30 students in a classroom.

Resources: Tangible and Intangible

"Well, here's the information, you're being spoon fed it in notes because…"

The availability and accessibility of resources in the schools had an enormous effect on information literacy instruction (ILI). The perceived resources influence how a teacher approached ILI (Moore, 2005). Betty and Rosie discussed the lack of computers as a primary issue and Betty felt the limited resources of the library did not make up for the lack of computers. Rosie felt that she could not engage her students in information literacy skills in any sort of recurring meaningful way because "without full-time access to computers and programs, I can't reinforce it all the time." Betty's activities and assignments suffered as a result. As she stated:

> I tried as much as possible to have the kids find information for themselves but there were some days where it was just 'well, here's the information, you're being spoon fed it in notes because.' A lot of times it was limited resources because our library did not have a fantastic selection of print materials and really… the lack of computers, if you're going to have a lack of print resources, you should have more computers to make up for it so. It was hard for them to find information on their own a lot of the time because of the lack of resources at the school.

The variety of tasks assigned varied greatly. This was dependent on perceived need and school resources. Betty described teaching students how to evaluate websites as information sources but felt restricted in the amount of instruction she could offer due to the lack of resources at her school. Balancing what the school can offer and what the students want came up several times. Dwight commented that "the most valuable resource I think we have in the, our library, that students would be willing to use would be the encyclopaedias and they get them online anyways." He went on the say that "it would be nice to have

books for them to be able to use" but that the cost of acquiring a collection worth using would be prohibitive.   Teacher priorities in the inquiry process and resource use varied; Fred prioritized the planning process whereas Tom prioritized using a variety of sources and triangulating the information to verify validity. Fred felt that students really needed to know how to organize their thoughts and prepare themselves for research. He also "often utilized the library and its facilities and its resources to help the students understand that there's more than one source of information." Emphasized frequently by the participants, critical thinking skills, especially when evaluating internet resources, were determined to be fundamental to the inquiry and IL process. Critical thinking, as a dimension of thought, has been highly supported by Alberta Education (2006, 2007) as it has been integrated extensively in the new social studies program of study.

Several participants felt they had plenty of resources available to them yet felt somewhat disconnected to how they were being used and how they met curricular objectives. The resources most felt they had sufficient access to were electronic resources. Sufficient access did not mean constant access but enough access to support instructional activities. Print resources were, by stark contrast, very limited. However, the participants indicated that their students would not willingly use print resources. Kate, for example, stated that "I think that the kids are so quick to disengage with a book." The observed student preference for electronic resources means that IL skills will be especially important to ensure that students are able to effectively assess electronically published information for validity and reliability. This has important implications for students moving

on to post-secondary education, in particular, where print resources may be a key part of students' engagement with their chosen discipline of study.

Without established publishing criteria and informed professionals vetting information prior to publication, information available on the internet needs to be scrutinized before being accepted as fact. Participants indicated that students accept information found online without critiquing the reliability or validity of the information or its source. Dwight, for example, stated "I think because there is no formality to it. It just comes up on a webpage and you know, a lot of them don't even bother to see who wrote it. They accept it and use it."

Passively accepting information found online without considering the source was a common problem identified by the participants. Ragains (2001) found that the undergraduate student participants in his study also felt that they could find the information they needed online which would require the ability to critique information resources. Confusion regarding ownership of information online was discussed by Dwight who stated:

> They're definitely plagiarists and they have no concept of copyright or anything like that. We talk to them about plagiarism all the time but they don't seem to feel that it belongs to anyone considering that it is in a public forum.

Tom commented extensively on his efforts to address this observed lack of critical analysis:

> I always have them [students] go back to the text resource as the, I guess, the touchstone. And then they can relate what they are taking in back to that so they have something to base it on. And then there are some sources that you actually teach them about media awareness and you know what they are trying to teach them, whether or not that website or that organization has an agenda and if you can discern what it is so in a situation like, you know, government sponsored media, what might their

agenda be? What angle might they be looking at it from? Does the angle jive with your worldview and if it does, then you're probably going to be ok with it because, you know, in essence you come from that culture, but if not, just deal with it with open eyes.

Although specific literature on this topic was not found for the applicable student group, Julien and Barker (2009) found that the IL skills of students in Alberta high school science classrooms were lacking information literacy skills which support the teachers' perception that students lack the skills to critically examine an information source. Teachers are trained to observe and report student progress so it stands to reason that their observational assessments serve as fairly reliable evidence, albeit anecdotal.

Time as a resource, or a lack thereof, was a prominent theme in the data. Highly correlated to the curriculum theme, teachers struggled to balance the curriculum and the time at their disposal. The participants' time in the classroom was an issue as it determined what they could and could not do with their students. The use of their time outside of the classroom was a contentious topic as there are many pressures exerted on teachers to plan and assess, as well as support extra-curricular activities, outside of their allotted school day. Somewhere in the 24-hour day, teachers have to find time for themselves as well. Scheduling was a significant issue for some as Tom explained: "I have reasonable access to computers but it's not, um, on demand. I have to book a room and schedule time and go through it and sometimes there's not enough time to get through the lesson so... so there's limitations." Kate described her struggle as:

You have so many different goals that you are supposed to meet and um… I think you kind of do each of these a little bit. Whether or not you do each of them well, I don't know. You can touch on each of them effectively, I think if you, have time to, you know, if you have language arts all day, everyday with your kids, you could probably do all of them, you know. If you had intensive amounts of time with these kids you could probably do it but 40 minutes or 50 minutes, once a day. Sometimes you don't see these kids five days a week, sometimes you get them four. A week like this week, you get them four days, last week I saw them three days, you know… so, it's just so, yeah, time is your biggest barrier and just being pulled in so many different directions.

The Role of the Library and Library Staff

"Kids often won't use a book. They want to go to the computer."

The role of the library, teacher-librarian, and library technician in the participants' experience was explored when possible. Participants were asked about the role the library staff played in their schools and in their own classes and planning. Their relationships with the library staff were explored when possible but only one teacher saw the library staff as instrumental for IL instruction. This participant, Fred, was the same one who had taken courses in library science and had worked as a teacher-librarian. Since the teacher-librarian and the library did not play a significant role in IL instruction from the teachers' perspective (except in one case), it was not examined in-depth either in the interviews or in the literature. Their limited role in the classroom, from the

teachers understanding, was not examined because including this topic would have broadened the scope of this project, reduced the attention I was able to give to my primary research questions, and would not have done the topic justice. It is, however, a relationship that warrants thorough investigation. Todd (2001) extolled the virtues of the school library and the role the library can play in supporting students learning yet libraries are not well supported in Alberta schools. The recent School Library Services Initiative (SLSI) hopes to change this but it has only begun its advocacy work.

All participants had access to a library and to information technology, although the range and access to resources varied. Betty stated that, in her experience, "it was expected that the teachers would teach the students how to use the library and how to search for things because the library tech, we just had one library tech doing absolutely everything for the library." A difference of opinion caused strain between one participant and the teacher-librarian. The merit of *Wikipedia* as a resource caused tension and indicates that a lack of communication existed between teacher and teacher-librarian regarding expectations for information seeking and subsequent assignments. In this case, the teacher felt that *Wikipedia* was a legitimate starting point for students but it could not be their only information resource. Conversely, the librarian did not feel it was appropriate for students to use *Wikipedia* as it is not necessarily a reliable resource. Other participants had generally positive relationships with the library staff but did not indicate that the library or its staff played a significant role in their classes. Kate commented that her relationship with the

library staff was very positive but that student resource preference affected library use. She stated:

> Our librarian is great. I know if I ask her to pull books on this, if she has them. Because I teach LA/Social, I know that sometimes has books on the topic that I'm looking for, quite often we don't have them. Um, she'll pull them for me if she has them but quite often she doesn't. So that's one reason- she doesn't necessarily have the resources. Kids often won't use a book. They want to go to the computer.

One participant even commented, with a shrug of the shoulders, that he rarely used the library and "If [he] booked the library, it was to use the computers in the library, so." His own preference for electronic resources was not surprising as many of the teachers corroborated this preference due to the speed of the internet and a higher rate of satisfaction with the information found. Their comments on this point were seemed guarded and most did not explain their preference for the internet in great detail. In retrospect, this has been attributed to the possible perception that the interviewer is deeply invested in libraries and therefore wanted to hear about their positive library experiences. Despite attempts to clarify that the interviewer had no personal or professional stake in school libraries but was interested in all aspects of information literacy and was wondering about library use in relation to IL, participants seemed reticent to disclose details regarding their own inquiry tool preferences.

Financial constraints were mentioned by a few participants who commented on the limited resources available for school libraries and the reallocation of funds for electronic resources. Although the LIS field is well aware of the benefit of teacher-librarians, libraries, and IL, which is clearly

demonstrated by the key organizational bodies' emphasis on IL (ALA, 1989; ACRL, 2000), it is evident that the students' preference for electronic resources has taken precedent over the staff members who assist in developing the skills to use these resources properly. Faculty-librarian collaboration would be ideal to ensure that these skills are taught within the core courses but the depleted teacher-librarian position in Alberta schools means that teachers will need to address these skills (Alberta Education, 2010). In that case, teachers require more professional development opportunities for implementing inquiry and information literacy practices. Teacher education has vastly improved their IL integration in the past few years (Duke & Ward, 2009) but the quantity and quality of IL instruction is still insufficient. As Asselin suggested (2004, para. 4) "teachers need to learn a progressive, developmental curriculum of information literacy skills and how to use explicit instructional strategies (modeling, demonstrating, explaining)." Other creative work-arounds might be found; for example, coordinating with local libraries (public and academic), or collaborative efforts with advanced placement or international baccalaureate programs, among others. The time and effort required to establish and maintain these initiatives may be prohibitive from the teachers' perspective. The recent School Library Services Initiative (SLSI) in Alberta may change this current issue and one participant saw great success with the library program in his school. The goal of this initiative is to draw attention to the value of school libraries and how, when actively involved in learning experiences, the library can enhance student learning thereby increasing student achievement. It is currently in a data gathering and analysis phase.

The literature emphasizes the importance of faculty-librarian collaboration (Moore, 2005; Fister, 2009; McGuinness, 2006; Ragains, 2001; Saunders, 2009) and Fred experienced great success with his collaborative efforts. He, and his associated district, saw the values of information literacy and welcomed the support of the library staff. Cooperative planning and teaching was integrated when possible. These partnerships are instrumental in establishing effective IL programs and are highly supported by the literature (Haycock, 1998; Henri, Boyd, & Eyre 2002; Hopkins & Zweizig, 1999; as cited in Moore, 2005; Todd, 2001). Although the value of the librarian and a library program was seen as valuable, the issue of budget did come up during the interviews. A teacher-librarian is a substantial financial investment for a school district. In order to retain their positions, teacher-librarians do need to garner buy-in from school faculty which often puts them in an awkward position of selling their program in a battle royale against technology. Budgets are a key concern for schools, as the priorities will receive a larger portion of the budget. Fred commented on the merits of having a dedicated teacher-librarian but stated that budget cuts are a significant barrier to employing a teacher-librarian. Fred articulates this precarious position as follows:

> They [teachers] see the value [of teacher-librarians] but, and pardon this term, they are often seen as the prostitutes of the school because they're constantly having to sell their program – to help avoid budget cuts and to help whenever money has to be cut- are we going to cut the computers or are we going to cut the librarian. Well, this day and age, where does that thought seem to go? Well, we can't cut computers, gosh no. Yet the computers are nothing without somebody to teach the kids how to use them effectively. And how to use them to seek knowledge.

Support: for teachers, for change

"But yeah, I think I still have the support I need. Maybe not as much as you'd like or when you'd like…"

Support, not only through the provision of resources but also from the school and district administration, played a significant role in how the participants approached IL in their classes. A balance between administration support and imposed 'top down mandates' are needed. As the Ros et al. (1996, as cited in van den Berg, 2002) study found, policy changes by policy makers cause stress for teachers who struggle to adapt to imposed changes. Since the curriculum acts as a legal document, a contract of what is to be taught, teachers are deeply affected by changes to the curriculum. When the curriculum is modified, teachers must adapt or create anew their plans and therefore change their instruction, which adds additional stress (Ros et al., as cited in van den Berg, 2002). The stress is compounded by the time and effort that is expended in making sense of curricular expectations on an individual basis and translating the outcomes into meaningful learning activities for students. Alberta Education implemented new language arts programs of study and social studies programs of study as of 2000 and 2006 respectively. With the new curriculum, the inquiry and Information and Communication Technology (ICT) outcomes were purposely integrated to illustrate the connections that may be made and to support the skill development in students by making these connections explicit to the teachers.

Transitioning to a new curriculum is often done progressively to allow for issues with the document and to help teachers deal with the stress that often

accompanies the adoption of new expectations. For example, in Alberta, the new social studies curriculum was implemented over the course of two years. In order for an initiative to succeed, there needs to be buy-in from administration, teachers, and students. Gaining buy-in can smooth the way for adoption of the expectations. Fred, as a former administrator, appreciated the importance of this balance and commented on this issue extensively. His own interest and support for IL programs encouraged him to implement initiatives within his school but he did feel that the support of the superintendent was essential. Several other participants commented on the impact initiatives at the district level had on them, their planning, and their instruction. Tom commented on the divergent thoughts of the district and the inconsistency of the expectations from administration to administration. His exasperation was manifested by shrugging his shoulders and sighing. Having multiple sets of expectations to meet and many obligations prompted Kate to comment that she was "being pulled in so many different directions. I mean the district has us going a million different places all at once." She was referring to the district priorities that affected the focus of her professional development and thus her planning and instruction.

The support from administration had a significant effect on how resources were supported, especially the teacher-librarian and library technician. As Fred noted "having the TL there is one thing and having an administration that supports the work of the TL is another thing. And, the culture of the school has got to be such that those positions are seen as valued and contributory." The school culture and scheduling was mentioned by several participants as having a significant effect on their teaching situation. There was

general agreement that time outside of the standard everyday expectations was used to accommodate for additional expectations as there was not sufficient time during the regularly scheduled day. Tom commented that he had support for most of his activities that it was "Maybe not as much as you'd like or when you'd like, but if you are willing to take the time outside of your scheduled access, it is there." For him to seek support outside of his regular schedule he needed to see the value of it as his time is precious and personal time is at a premium.

In describing her approach to planning and teaching, Betty commented on the rigidity of traditions and school expectations. Despite her own thoughts and feelings regarding IL, her planning approach to essays in particular was limited because, as she stated, "that was the way that the department did essays." Resistance to change was also mentioned by Rosie who stated "when you get out there you don't realize that you're pushing a barrier. And when you push those barriers, sometimes other teachers get upset, or principals get upset." Both participants had less experience than Fred and therefore might not have felt in a position to challenge the authorities at their schools. This does not mean that all teachers entering the field will feel this pressure but does indicate that teachers may feel pressured to continue teaching and assessing in a way that is accepted by the current staff. Several participants commented on the difficulties of relying on others which is often a necessity given the demands of the job. Three of the eight participants commented on their personal focus on one particular grade or subject, to the detriment of the others they taught. Their divided focus was due to time and effort limitations, as well as personal interest.

They were divided between multiple grades and subjects and were forced to rely on other teachers to assist with their planning. All three participants expressed feelings of guilt but justified their decisions by commenting on the reality of the job. As a factor determining their planning and instruction focus, their personal interest was the most interesting as that was found to be a mediating factor in inquiry instruction and ILI for their students. In order for a successful information literacy program to take shape, teacher buy-in and support is imperative.

> Informally, yes. I have support but formally those structures are not in place anymore and actually through the AISI [Alberta Initiative for School Improvement] program we had the tech coaches so we had that formally but now it's informal. But yeah, I think I still have the support I need. Maybe not as much as you'd like or when you'd like, but if you are willing to take the time outside of your scheduled access, it is there. (Tom).

Curriculum: Where does Information Literacy Fit?

"They are trying to cover some of that…"

One of the most significant discrepancies was the understanding of information literacy (IL) within the curriculum. The curriculum defines what knowledge and understanding, skill and process, and values and attitude outcomes students should develop throughout their education. Established by the Government of Alberta with the input of countless stakeholders, the curriculum delineates what students should know and be able to do at a specific grade level. This standardization provides teachers with a framework that guides their planning and instruction while allowing sufficient freedom to instruct as they see fit. As a government published document, the curriculum illustrates social values and norms; it emphasizes what society, or the

stakeholders in education, feel are essential for students to be active, engaged, and contributing members of society. As such, the inclusion of IL skills indicates that they have been deemed valuable for students.

The Alberta Education language arts and social studies curricula outline required IL skills, in all but name, with increasing sophistication as the grades progress. As Allen (2007) and Moore (2005) suggested, integrating IL within the curriculum is necessary to ensure that IL is being taught. The Focus on Inquiry, which is classified as a support document, and the Information and Communication Technology (ICT) curriculum, which is integrated in the social studies program of study but not the language arts program, requires students to engage in and enhance their IL skills especially related to locating, accessing and evaluating information. When asked about the role of the Focus on Inquiry in his classes, Tom commented:

> That [inquiry] is the social curriculum. It's that inquiry basis that they demand to understand that curriculum so I think the days of 'where is the capital of whatever..' their kind is gone. It's more just personal connection to the content and finding meaning for it in your own life and in your own context and that's kind of what you get the kids to seek to do.

The Information and Communication Technology (ICT; Alberta Education, 2000-2003) program of study and the Focus on Inquiry (Alberta Learning, 2004) is expected to be integrated within core courses to develop these skills in the context of the core content but several participants indicated that the ICT is only integrated within social studies where the ICT connections have been made for the teachers. Several participants commented on a mandatory course that integrated ICT outcomes with the core courses but was offered as a technology-based course in the computer labs. This additional

course was designed to meet the technology requirements of all core courses and is taught using inquiry-based activities. Information literacy skills were integrated throughout this course to varying extent. A few of the participants who had experience with this course, either as an instructor or as a core teacher whose students benefited from this course, discussed a sense of being "disconnected" (Kate) from the knowledge, skills and attitudes taught. There was a feeling of being unprepared to teach some of the content, especially the subject specific content, and there was an inconsistent understanding of what exactly was taught. The curricular foundations of the course were obscure and ill-defined. One participant in particular felt that the course was teaching a variety of useful skills yet this participant did not instruct the course and was relying on the reports of others and his own assumptions regarding the content of the course.

Although a fantastic concept, the lack of consistent understanding regarding this ICT/ Inquiry based course indicates that the time and effort expended in the period may not be beneficial for the students. It would be interesting to examine this course as an independent variable of ILI to assess the effectiveness of the course and its impact on student learning. If one of the teachers of the course does not see the relevance of the content, feel comfortable teaching it, or is unsure of the curricular background for the course, perhaps this lack of clarity in communication will harm the effectiveness of a novel and ultimately beneficial learning opportunity for the students and an excellent instructional opportunity for the teachers. As Julien and Barker (2009) suggested, the explicit curricular mandates are insufficient to ensure IL skills are

being developed in schools. Despite including these skills in the curriculum, a

lack of understanding regarding the scope of IL and the interrelated skill set

required to be information literate hinders a teacher's ability to embrace ILI.

Alberta Learning's (2004) Focus on Inquiry mediates this issue but most

participants were not very familiar with the document. They were familiar with

the term inquiry and felt they were incorporating inquiry-based tasks into their

instruction. This document provides a solid base for IL instruction and skill

development but few participants were very familiar with it. Citing factors such

as time constraints and workload, participants did not interact with the Focus on

Inquiry to a meaningful extent. For example, Kate commented that:

> You're just pulled in so many different directions and you have so
> many different goals that you are supposed to meet and um... I think you
> kind of do each of these a little bit. Whether or not you do each of them
> well, I don't know. You can touch on each of them effectively, I think if
> you, have time to, you know.

Overall, participants felt they were very well versed in the curricular

expectations for their grade and subject level but given the reality of their

teaching situations, they did not all feel capable of meeting all of the

expectations.

Betty and Dwight stated they knew IL skills were covered by their

curriculum but Rosie believed that IL was not a part of her program of study.

Although she certainly saw the value of IL skills, she did not spend much time on

them. Recurring, on-going instruction is essential because, as Rosie said, "a class

or two is sort of lip service." This finding suggests that the current curriculum is

insufficient to ensure these skills are taught. Another participant was unsure of

how the instruction connected to the ICT program of study as he responded to a

follow-up question about the connection: "Um, yeah, they are trying to cover some of that" which was answered with a lack of confidence. Although one participant knew IL skills were a part of her curriculum, she struggled with incorporating those outcomes due to her teaching situation; the environmental issues were overwhelming and she described her teaching experience as being focused on "surviving." Regarding the connection between IL and curriculum, Dwight commented that:

> Um, it fits really closely. With the LA [language arts] for sure, because, you know, we have to access information to be able to produce things from it in a variety of different ways. Um… I don't know when I think about libraries and tying it in, it's a little harder but… everything we do, we have to get meaning from it and I think that getting students to think about how to get it out of there would be a good idea.

Given the exceptionally high attrition rates for teachers early in their careers (Alberta Teachers' Association, 2010), this sentiment is likely very common. Rosie, as mentioned above, did not believe that she had an obligation to teach these skills, indicating that Julien and Barker (2009) are indeed correct in stating that there needs to be even more explicit curricular outcomes for information literacy.

Chapter 5: Conclusions, implications, future research

Conclusions and Implications

Although I am thrilled to have had the opportunity to complete this study, I am left with more questions than I started with. I had expected, or hoped in vain, to find answers or solutions, some brilliant insight, but I am sitting here debating where to start with recommendations or future plans. An exhaustive list would take up a forest of trees or at least an entire data key. However, there are several key issues that are essential to address.

First and foremost, the term information literacy is not known to most teachers. This is problematic as the bulk of literature on information literacy and how to support the development of these valuable skills and processes is found under the term 'information literacy.' The substantial body of literature on this topic is also published primarily in the library and information studies (LIS) field. As such, educators are less likely to locate this material thereby limiting their exposure to IL as a concept and to the theoretical background and practical suggestions to support IL instruction and skill development. It is imperative that LIS professionals begin disseminating their research and publishing their results within the education field. To facilitate educator understanding of IL we must increase their knowledge which can be done to an extent by publishing in education journals. The lack of educator familiarity with the term information literacy suggests that there is a serious lack of awareness.

As library vernacular, the term did not resonate with the participants. The range of what might be included under the umbrella of IL also varied

drastically- from an all encompassing definition of literacy and all related information skills to the very narrow skill of locating information. The broad scope of the definition of literacy also creates confusion. It is difficult to delineate what knowledge and understanding, skills and processes, values and attitudes should be included within the definition of either literacy or information literacy. Organization standards such as the ALA and UNESCO did not offer consistent clarification regarding these concepts and even created more confusion. The ambiguity around the term and the skills included needs to be clarified. Given the broad, inconsistent definitions of these, and perhaps all, literacies it is imperative that the parameters of all literacies be delineated and their relationships or interdependencies be clarified.

It was obvious from the interview data that teachers value IL skills and certainly see the merits of IL instruction for their students. However, they did not instruct IL as an entire process or a way of doing something but instead integrated elements of IL within their instruction and learning activities. It was often divided into parcels and taught in chunks where possible. Although the instruction is no doubt beneficial for the students, since they do not get the entire inquiry process experience often they may see these individual processes as disjointed. The shift towards integrating IL, through the *Focus on Inquiry* (Alberta Learning, 2004) in the Social Studies program of study, into curriculum has been a positive shift as teachers who addressed their social classes indicated that IL was a natural fit for their programs. The lack of formalized consolidation of the *Focus on Inquiry* (Alberta Learning, 2004) into the language arts program of study is problematic. Given its separation from the core curriculum, teachers

may not see the need to include it in their planning or instruction as it is- quite literally- not a part of their curriculum.

Assumptions regarding student ability also affected the IL taught. Teachers often believed that their students were able to effectively search for information but struggled to evaluate the reliability of the source and thus the information. Most of the participants understood that the student ability varied from one student to the next but struggled to cater to the whole group. Their understanding of what their students needed also influenced the IL instructed. If they thought students would attend post-secondary studies, efforts were made to prepare them as much as possible within the constraints of the classroom. Rosie, for example, only emphasized referencing sources in her academic streamed classes. That is not to say that she ignored the issue with her other classes but that she felt citing sources was a more important skills for those pursuing academic streams. This indicates that these uninformed assumptions often drive instruction. Assessment of student ability to demonstrate knowledge and understanding, skill and process, value and attitude expectation established in the curriculum is a significant responsibility of teaching but the assumptions one makes about their students' abilities often drives the progress of the course. Due to the lack of teacher understanding of IL, it can be assumed that their assessment of the students' IL skills and identification of their subsequent needs is inadequate by LIS standards. Assuming their students either possess these skills or will acquire them as needed indicates that teachers need to be re-educated (or educated) in the theory and best practices of ILI.

Teacher education programs do not prepare teachers to teach IL. Despite marked improvements over the past decade (Asselin & Doiron, 2003), teachers are still ill-prepared to meet the needs of their students. This may be due to teachers having low IL skills (Allen, 2007). There is a curricular expectation that IL will be taught. It permeates all curricula to varying degrees but is explicitly connected to the new Social Studies (Alberta Education, 2006, 2007) programs of study. The *Focus on Inquiry* (Alberta Learning, 2004) is also ineffectively used in Alberta classrooms. As a policy document, it provides a detailed, thorough argument for and approach to integrating IL in all classrooms but research (Julien & Barker, 2009) shows that this is insufficient to ensure that students receive satisfactory IL instruction. Given the pervasive nature of information literacy within the curricula, there should be a greater emphasis on teaching these skills and supporting their instruction within teacher education programs. Ongoing professional development would assist with teacher development of enhanced IL skills and would improve of their ability to offer students ILI.

The initial themes found in these results indicate that explicit curricular mandates are required for information literacy (IL) expectations. There needs to be detailed, required expectations for teachers. With the *Focus on Inquiry* (Alberta Learning, 2004) acting as a supplementary document, it does not command the attention it deserves. Teachers are pressed for time and addressing their core curriculum is a priority. There is also little, if any, provincial assessment dedicated to information literacy which also affects the emphasis it receives in a classroom. Priority will be given to what teachers value and the assessed core-curriculum expectations are paramount. In order to

ensure effective IL instruction, the skills need to be applied in provincial examinations, included in the curriculum and supported through professional development and teacher education programs.

In addition to curriculum support, teachers need support within their schools and districts to fully incorporate IL instruction within their classes. They need information technology and human resources. Having the outright support of their administration and board would provide teachers with the ability to focus on IL without compromise. As indicated by the participants, they struggle to balance the priorities in their classrooms and often compromise the quality of their work to meet the expectations of others. Supporting teachers and IL not only in documentary form but also by committing funds to human and information technology resources would also facilitate ILI. Having the technology available to provide students with hands-on application of IL skills and providing both students and teachers with human support either in the form of library staff, a teacher-librarian, or a dedicated teaching assistant to support IL, would enable more engaging ILI and increase the likelihood that students and teachers develop IL proficiency.

Teachers have ample expectations placed upon them and they struggle to find a balance. Administration support provides teachers within the district with the support they need to pursue IL to a greater degree. By advocating for information literacy, administration can garner more funding in support of IL. Additionally, their support can provide the impetus for greater teacher buy-in (providing teachers see the value of IL). Policy changes cause stress among teachers (Ros et al., as cited in van den Berg, 2002) who are expected to

accommodate these changes while still managing their already full platters. If IL is to be fully accepted by teachers, there need to be easy-to-implement, clear and logical documentation and human support for the initiative. Facilitating the inclusion of IL into Alberta classrooms will enhance the likelihood that the skills will be taught.

School libraries were generally perceived as places to locate information but were not perceived as knowledge centers. No participants had teacher-librarians (or were aware that they had one) and therefore could not comment on their role. Library staff, in all but one case, was seen as contributory, albeit in a very limited way, to the class as they (the library staff) were able to quickly identify resources for the teachers. Formally-trained teacher-librarians, by virtue of their professional backgrounds, have an understanding of pedagogy and information literacy. Collaboration between teachers and teacher-librarians would allow ILI to take place within the context of the course and allow students to see the relevance of IL skills, thus increasing the likelihood that students will invest the effort to acquire these skills.

The role of the librarian in IL instruction should not be ignored in favour of the teacher. With professional and academic backgrounds steeped in IL instruction, librarians and formally-trained teacher librarians are ideal IL instructors. That being said, most library and information studies (LIS) programs do not offer many (if any) pedagogy courses. Education psychology is often overlooked thus librarians are not necessarily prepared to deal with diverse learning needs or learning styles. Without this knowledge, they will

struggle to work with large groups of students with varied learning needs. Since most LIS programs fall within Education faculties, it seems logical to include education psychology and pedagogy courses in the required courses as it would improve the effectiveness of librarians as educators.

In order to encourage the inclusion of IL, there needs to be a better understanding of IL. A comprehensive definition, with clear expectations, is needed to ensure that all parties (teachers, policy makers, librarians) understand the scope and depth of IL within the curriculum. IL as a concept is not 'sexy' and often falls 'flat.' Although library and information professionals are deeply invested in IL, they need to nurture an appreciation for what successful ILI can do for both teachers and their students. For ILI to be successful, the lessons and skills must be relevant, must be taught in context and must be reinforced with ongoing instruction.

This study has significant implications for library and information studies, as well as education. The results indicate that teachers are ill-prepared to meet the IL needs of their students. With their access to a teachable-population and the opportunity to teach IL, teachers are ideal coaches for IL development. Their lack of awareness of IL is a fundamental problem for IL development. Library and information professionals need to be proactive in sharing their understanding of IL with the education community. By publishing in the education field, participating in education conferences, and collaborating where possible, LIS professionals need to bridge the gap. This proactive approach is especially important due to the fact that LIS professionals understand the need for ILI but teachers do not necessarily appreciate the

bleakness of the current IL situation. Revised teacher education programs and a greater emphasis on IL instruction in these programs would help teachers develop their own IL skills which could be imparted onto their students. The potentially low teacher IL skill is also disconcerting as they are a professional population that would significantly benefit from enhanced IL proficiency.

Despite the presence of IL in the curricula, students are not necessarily leaving secondary school with the IL skills they ought to have (Julien & Barker, 2009). This suggests that even mandatory, required outcomes are not successfully taught and thus changes to education policy are necessary. This may be another role for library and information professionals given their understanding of IL. Finding IL cheerleaders within the education field would be beneficial in garnering buy-in for greater emphasis on IL in terms of curricular mandates and ongoing support.

Future Plans

There are so many questions that arose as a result of this study that I could make this my life's work! A few major areas of interest, among many, to this researcher that warrant extensive study are the relationship between the teacher and the library staff or the library as a space; the state of IL in teacher education programs and professional development, as well as teacher IL proficiency; and how IL could be successfully incorporated into secondary classrooms.

Although the relationship between teachers and library staff or teachers and the library were not explored in this study, there was an expectation that

some data would emerge but this was not the case. The sheer absence of data suggests that this relationship is very underdeveloped and deserves a study of its own.

Professional development had a significant impact on how I approached IL in my own class and would be instrumental in supporting teacher development of IL proficiency. Inclusion of greater ILI in teacher education programs would ensure a systematic approach to ILI for teachers. This would increase the likelihood that incoming teachers are developing their own skills prior to leaving university and entering schools thereby giving them tools to share with their own students. Assessing teacher IL proficiency would be very interesting as it may provide the data to support changes to teacher education programs. It should not be assumed that teachers who survived university developed IL skills along the way as this supports the teachers' passive approach to ILI in their classrooms.

A case study of an IL program integrated into a core class would fascinating. A thorough case study that would allow the application and assessment of IL in conjunction with pedagogic theory in an on-going manner might provide the empirical evidence needed to demonstrate the value ILI for students and teachers. With a highly involved researcher, a well implemented methodology, and a willing classroom, the possibilities are endless!

My realistic future steps are, at present, unknown. I intend to pursue a doctorate and hope to continue with this work but the route I take is, like most research endeavours, dependent on many factors such as time and funding. I

sincerely hope to follow-up with some of the aforementioned plans but also hope that you, dear reader, might consider doing so as well. I doubt even my mother will read this far into this thesis and I suspect that anyone reading to this point has a vested interest in information literacy. I tip my hat to you and thank you for caring. I hope that you found this as interesting to read as I found it to research and write.

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Appendix A- Recruitment Poster

Participants Needed For Information Literacy Research

Volunteers are needed to take part in a study of teacher conceptions and perceptions of information literacy. I am looking for teachers and/or graduate students in Education (former, current, returning teachers) with experience teaching Grade 7 to 12 language arts and/ or social studies in Alberta.

As a confidential participant in this study, you will be asked to participate in an interview at a mutually agreeable location. Each interview will last no longer than 1 hour.

For more information or to volunteer for this study,
please contact:

Jorden Smith (student, investigator)
School of Library and Information Studies, Faculty of Education
University of Alberta
Phone: 780-800-5381 or
Email: jksmith@ualberta.ca

Lisa Given (supervisor)
School of Library and Information Studies, Faculty of Education
University of Alberta
Email: lisa.given@ualberta.ca

Appendix B: Graduate Students' Association Listserv Submission

Volunteers Needed: "Examining Teacher Conceptions and Perceptions of Information Literacy"

Volunteers needed for a study examining how teachers (former, current, returning) define and perceive information literacy within their teaching practice.

Criteria for participation:

· Graduate students in **Education**
· **Experience** teaching **language arts** and/ or **social studies** in **Alberta**

Time Requirement: 1 hour (**maximum**) for an interview on the U of A campus.

For more information or to volunteer for this study, please contact: **Jorden** (jksmith@ualberta.ca)

Appendix C- Letter of Initial Contact

SLIS SCHOOL OF LIBRARY AND INFORMATION STUDIES

UNIVERSITY OF ALBERTA

Examining Teacher Understanding of Information Literacy in Alberta

Principal Investigator: Jorden Smith

December 1, 2010

To whom it may concern,

I am writing to request your consideration to participate in my study of teacher conceptions and perceptions of information literacy. To limit variables, graduate students in the Faculty of Education with experience teaching grade 7 to 12 English language arts and/or social studies are sought. This study is being completed for my Master's thesis in the School of Library and Information Studies in the Faculty of Education at the University of Alberta. I appreciate you taking the time to read the following letter before advising me of your response.

The purpose of my study is to examine teacher conceptions and perceptions of information literacy and how this understanding influences information literacy instruction in grades 7 to 12 English language arts and social studies classes in Alberta. I am looking for 15 participants to explore teacher understanding of IL, examine factors that shape teacher perceptions of IL and evaluate how perceptions of information literacy influence information literacy instruction in junior high schools in Alberta. This study seeks to identify strengths and weaknesses in the current education policy and to provide a better overall understanding of how information literacy is perceived by educators.

Participation is voluntary and if you choose to participate, you will be asked to attend a 1-hour (maximum) semi-structured interview at a mutually agreeable location. Participation is voluntary and your identity will remain confidential. Only I, the principal investigator, and my supervisor (Dr. Lisa given) will know of your participation and your identity. You will be able to review the interview transcript before data analysis commences. At the completion of the study, the aggregated findings will be sent to you if you express interest at the time of the interview or at any time following the completion of the study if you contact either myself or my supervisor (contact information below).

Please contact me, Jorden, at jksmith@ualberta.ca or 780-800-5381 or contact my supervisor Dr. Lisa Given at lisa.given@ualberta.ca if you are willing to participate or if you have any questions.

Thank you for your consideration,

Jorden Smith, MLIS Student
School of Library and Information Studies
3-20 Rutherford South, University of Alberta
(780) 800-5381
jksmith@ualberta.ca

Dr. Lisa Given (advisor)
School of Library and Information Studies
3-20 Rutherford South, University of Alberta
Edmonton, AB, T6G 2E4
(780) 492-2033 (Office)
lisa.given@ualberta.ca

Appendix D- Letter of Information

SL̲I̲S School of
LIBRARY AND
INFORMATION STUDIES

3-20 Rutherford South
University of Alberta

Edmonton, AB, T6G 2E4

December 1, 2010

Examining Teacher Understanding of Information Literacy in Alberta

You are invited to participate in a study examining how teacher conceptions and perceptions of information literacy influence information literacy instruction in grades 7 to 12 language arts and social studies classes in Alberta. Approximately 15 participants are needed to provide sufficient data. Graduate students in the Faculty of Education with teaching experience in grade 7 to 12 English language arts and social studies are invited to participate. By participating in this study, you will assist in identifying factors influencing information literacy instruction which will create a better understanding of how information literacy instruction can be improved. I am completing this study for my Master's thesis in the School of Library and Information Studies at the University of Alberta.

Participation is voluntary and as a participant, you will be asked to attend a semi-structured interview that will take no longer than an hour. Interviews will be audio-recorded and transcribed. Transcriptions will be provided to you for your verification. At the completion of the study, the aggregated findings will be sent to you if you indicate an interest during the interview or at any other time during the process. Results may be requested at a later date by contacting Jorden Smith or Dr. Lisa Given (contact information below).

The interview recording, interview transcripts and field notes will be used for educational and research purposes only. Should the findings of the study be published, the identities of all participants will be kept confidential. You have the right to not participate in this study. You have the right to privacy, anonymity and confidentiality. Only the researcher and her supervisor will know of your participation and your identity. A pseudonym will be assigned to your data to ensure anonymity in the findings. You may withdraw at any time before data analysis commences (February 1, 2011) without prejudice, and have any collected data withdrawn from the data base and not included in the study. Should you choose to withdraw from the study prior to February 1, 2011, please contact the researcher or her supervisor (information below) and all data assigned to your pseudonym will be removed from the data base and master file

immediately. Data will be kept in locked cabinets and encrypted USB drives in the researcher's home office for 5 years following the study after which it will be destroyed.

There are no foreseeable harms that will arise from this study. The plan for this study has been reviewed for its adherence to ethical guidelines and approved by the Faculties of Education, Extension, Augustana and Campus Saint Jean Research Ethics Board (EEASJ REB) at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Chair of the EEASJ REB c/o (780) 492-2614.

For more information or to volunteer to participate in this study, please contact:

Jorden Smith (Master's student)
School of Library and Information Studies
3-20 Rutherford South, University of Alberta
Edmonton, AB, T6G 2E4
Phone: 780-518-2057 (personal, cell)
E-Mail : jksmith@ualberta.ca

Dr. Lisa Given (Supervisor)
Professor
School of Library and Information Studies
3-20 Rutherford South, University of Alberta
Edmonton, AB, T6G 2E4
Phone: 780-492-2033 (Office)
E-Mail : lisa.given@ualberta.ca

Appendix E – Letter of Consent

LETTER OF CONSENT

Examining Teacher Understanding of Information Literacy in Alberta

PARTICIPANT'S NAME:

As a participant in this study, I have read the letter of information and had my questions answered to my satisfaction. I understand the general nature, purpose and procedures of the study as explained to me by the researcher.

I understand that data resulting from my participation in this study will not identify me in any way. I also understand that I may withdraw from the study, for any reason, any time before February 1, 2011, without prejudice. I understand that I must contact Jorden Smith (jksmith@ualberta.ca) or Dr. Lisa Given (lisa.given@ualberta.ca) to withdraw.

I hereby give my permission to be interviewed. I understand that the interview will be digitally audio-recorded, and that the recordings, interview transcripts, and field notes will only be used for educational and research purposes.

I acknowledge that a copy of the information letter and a signed copy of the consent form have been given to me and one copy has been kept by the researcher.

Participant's Signature:_____

Researcher's Signature: _____

Date:_____

Appendix F – Sample Interview Script

- **Explain the purpose of the study.**
- **Review the information and consent letter.**
- **Ascertain teaching background, experience (time), courses taught, location (make sure it was Alberta).**

1. What does 'being literate' mean to you, as a teacher?

      a. What skills do you think students need to succeed in school?

      b. Is your expectation the same for all students?

2. Based on your experience and what you see in the classroom, how skilled are students at locating, accessing and using information to fill information needs?

* I'd like to ask you a few questions about information literacy activities, lessons, or assignments in your classes.

3. How familiar are you with the term 'information literacy'?
(Use ACRL Information Literacy Competency Standards for Higher Education as prompt to elicit specific details. Critical incident technique if applicable, ie. tell me about a time you incorporated a lesson/ assignment to ......)

4. In what ways (if at all) did you incorporate:
- Identifying information needs
- Locating information sources
- Accessing information
- Evaluating information and / or sources
- Applying new information

5. How did the following influence your ability to incorporate information-based (location, access, use, evaluation, application) activities in your classes?

- Library

- Teacher- librarian
- Information Technology, ie. computer, internet, databases
- Time
- People support (admin, other teachers)
- PD
- PLC

6. In what ways (if at all) did you the Focus on Inquiry (Alberta Education 2004)?

      a. How did it factor into your teaching practice?

 7. How do you feel information literacy skills (the ability to identify information needs, locate resources, and access, use, evaluate, and apply information)fits within your curriculum?

Appendix G- Interview Prompt: ACRL Standards

Association of College and Research Libraries (ACRL, 2000) Information Literacy Competency Standards for Higher Education

Standards, Performance Indicators, and Outcomes

Standard One

The information literate student determines the nature and extent of the information needed.

Standard Two

The information literate student accesses needed information effectively and efficiently.

Standard Three

The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

Standard Four

The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

Standard Five

The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.