REPRESENTING INFORMATION USE IN EDUCATIONAL SETTINGS

by

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ABSTRACT

The purpose of this study is to describe how a high school student retrieves information in order to write a history research paper, and to investigate the role genre plays in this process of search and paper construction. This study interrogates the conditions under which students are sent to the library to complete research assignments. What is absent from the research of school library use is how the kinds of knowledge expected from the students, and how the kinds of uses and manipulations that information is to be put through are connected to the access and retrieval of information. Because use is the final stage in the information process, this problem is approached by examining the assumptions about language, knowledge, and genre that teachers and students bring to research assignments in the school library. Rhetorical genre theory may be used to construct a representation of information use within an educational setting. Rhetorical genre theory will also be used to determine the method of analysis. By examining a few instances of high school history research, we can begin to systematize the features found beyond the sample to a larger study. An interdisciplinary approach that integrates classification theory, information seeking behavior, and rhetorical practices may help to characterize effective models in information retrieval. This model may provide a structure for understanding how a core set of research tasks utilizes a certain set of genres.
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GLOSSARY

Classification: Process of grouping things together into a particular order dictated by the purpose and intended use of the resulting classification scheme.

Genre sets: a collection of resources people use to accomplish their aims—for example, the work of tax accounting

Genre systems: interrelated genres that interact with each other in specific settings

Indexing: Process of representing the results of the content analysis of a document by means of a controlled indexing language.

Rhetorical genre theory: a functional, pragmatic theory of textual meaning. The concept of genre is about function not form. In this understanding, genres “are conventional structures which have evolved as pragmatic schemes for making certain types of meaning and to achieve distinctive social goals, in specific settings, by particular linguistic means.” (Cope and Kalantzis, 1993, p. 62).

Subject/content analysis: Process of analyzing the content of a document to determine the most appropriate indexing term to assign.
CHAPTER 1

INTRODUCTION

The purpose of this study is to describe how a high school student retrieves information in order to write a history research paper, and to investigate the role genre plays in this process of search and paper construction. For many people the predominant metaphor of the library is of a warehouse of books (M.A. Broadfield, 1946). Popular understanding has it that the library is used for finding facts and collecting information. The individual approaches the storehouse with a stand-alone question, and the librarian retrieves the answer. In our culture, students are often given research assignments where they must locate and access information from print and digital sources in order to complete an academic research paper. Many people believe that writing activities should reproduce pre-formed content (Geisler, 1994), i.e., knowledge-telling. This practice is widely recognized as a means to demonstrate knowledge that the student has acquired. High school history students often experience the discipline of history as interesting facts that lead to a single truth (Russel&Yanez, 2004), history as fact telling. The high school student may construct the history research genre as pure fact-telling, in which case she will cite specific concrete facts. One of the problems with this approach is that students re-represent ideas they have found as their own, perhaps citing statistics or concrete details, but omitting to acknowledge that the argument is not original. For example, a student writing on the history of women in Canada would establish a chronology of events and people—specific suffragettes, restrictions on education, and perhaps their impact on the largely male role of politics, education, or religion.

In high school history classes, students are typically asked to re-represent knowledge that
has been established by subject area specialists in order to demonstrate comprehension, a writing-to-learn task (Bazerman, Little, Bethel, Chavkin, Fouquette, & Garufis, 2004). The research genre as constructed by the student will focus heavily on the words of the sources. The need for information is represented as a need for a source from which to copy. However, as students progress through education, they are asked to construct their own understandings of a problem or issue, not fact-telling. Professors in universities particularly criticize what they refer to as the “knowledge-telling” strategies of students entering university (Perkins, 1991). From their perspective, students view research as the transfer of information, often from highly organized textbooks and informational texts. Information is to be "looked up." Research though, as understood from within a disciplinary perspective, focuses on how facts are made through interpretation. In university, students are expected to evaluate established knowledge, with the possibility that that knowledge is incomplete, contradictory, or even wrong. In the case of women's rights, the underlying assumptions may, for example, be the relationship between individualism and equality. A crucial problem in writing research is that non-specialists (i.e., high school students) must use specialized discourses (Russel&Yanez, 2003). Experts acquire knowledge and transform it in one way, and novices in another way. Part of the high school students’ assignment is to find sources that are serious enough, yet accessible to a high school level, and the school librarian must provide the intelligence necessary for performing this task.

1.1 Background

In school libraries, the librarian is supposed to bridge the gap between research assignments and resources. However, this connection is opaque because there are often no
clearly articulated connections between the goals of the assignment and the library. On one side, we have the assignment that students are given in the classroom, and on the other side we have the assumed resources that students will locate and use to fulfill the assignment. Students face a bewildering number of seemingly relevant books, articles and other materials from which to choose. Context is influential in shaping strategies of writing from sources, and in determining the pertinence of resources to the task. Genre provides the situational context for determining the relevance of sources. The library reference interview is an attempt to reconstitute that context, the original motivation to write, with genre in mind. It is not known how students interact with an information organization system when research projects require students to integrate a complex set of resources into an interpretive research paper. The classification of items in an electronic system is meant to disambiguate the document genres; however, classification based on topic alone may actually occlude the relevant sources needed to complete the task of composing a research paper when genre is the criterion of relevance.

We expect different things of genres. Genre then is both text and action with a purpose. For example, the object and motive of a ‘book review’ changes depending on the context. A book review might be used as a summary, to demonstrate that content knowledge has been acquired. Or, history teachers may expect that students not treat history as if one could move beyond interpretation to truth. In this perspective, a book review would focus on the argument as constructed by the author. Each instance of the genre will carry implicit assumptions about the kind of writing expected from the student. Genres are not only a set of formally definable text features that certain texts have in common across various contexts, but genres also have a relation to systems of social activity and action. Genre is connected to the purposes of the sources. The situation through which the genre emerges includes a collective rhetorical strategy
(Smart, 1991), a typical style to which inexperienced writers may confidently resort. Genres are classifiable by the action which they perform rather than by formal features which analysts discover as repeated and similar. If students hold the view that knowledge is contained in documents, then they are likely to universalize knowledge as monolithic and uncontested. This view causes problems for students entering a university setting: students are often devastated by receiving low grades, often for the first time in their life. They meticulously applied themselves to learning genre rules in a high school setting, and are surprised to learn that their writing is no longer acceptable to a university audience. This is not just a problem for academia because professional success is dependent upon understanding the generic features of communication within one's field of study. Studies of workplace writing have revealed the interrelationship of production of discourse and its interpretation (Smart, 1991; MacKinnon, 1991; Kleimann, 1991). These theorists assert that genre knowledge is inseparable from day-to-day working knowledge that professionals perform. The problem is how academic research paper writing develops out of a context that stresses memorizing truth, content, and curriculum (Perkins, 1991). Academic genres are concerned with knowledge-making, constructing new horizons of understanding from within a common stock of knowledge. An articulation of genre characteristics seems especially important in digital collections where a topical search query retrieves documents with a wide diversity of genres that are relatively undifferentiated as to their purpose and function. An interdisciplinary approach that integrates classification theory, information seeking behavior, and rhetorical practices may help to characterize effective models in information retrieval. This model may provide a structure for understanding how a core set of research tasks may utilize a certain set of genres.

One might look for searching behaviors varying according to the task and situation. One
aspect of the situation is disciplinary expectation. Information literacy standards, however, describe learning outcomes in terms of concrete searching skills. Both systems describe the process of retrieving information as if the knowledge is ‘out there’ (Kapitzke, 2003) and the students’ mission is to ‘access, evaluate, synthesize, and analyse’ that information to create an original product. The process of accessing and evaluating information constitutes a set of skills, and because it is skill-based, it is seen as an unproblematic, transferable process. However, we may be better off thinking of searching as a situated rhetorical activity in this exploration of the intersection of classroom and library. Walton & Archer (2004) in their study of disadvantaged engineering students in South Africa state that "the discourse the student commands is crucial to success" when searching for and selecting sources. This may also be true of less disadvantaged students too because they do not have disciplinary discourses. The BC Royal Commission on Education (1988) found a distinction between educators who view knowledge as a set of facts based on the study of systematic bodies of knowledge, and educators that argue that school knowledge is divorced from real world concerns. The latter group advocates the position that the new demands of an information society require students who are critical thinkers and problem-solvers. The Commission makes the observation that criticism of the former approach is based on faulty teaching methods which fail to connect the conclusions of the discipline to the kinds of evidence and reasoning that established them-- as “genuine knowledge must be grounded in the ability to think and reason in a disciplined way”(1988, p.6). The Commission also finds fault with latter group’s definition of curriculum relevance as different modes of inquiry and standards of adequacy and accuracy arise out of different sets of human concerns and processes that are embodied within the disciplines. Specialized written knowledge is used to perform different goals. The student using electronic information systems, must predict the kinds of language that
will be found in the full text search. The kind of specialized terminology that is typical to
writing, for example, about imperialism and war may be inaccessible to the student, who will
rely on a topic-based description that will retrieve a variety of document genres. Constructivist
learning theories suggest that as students work with data that they gather, they build personal
understanding so their projects reflect original thought which goes beyond mere retelling of
information to focus on a deeper understanding of the information they experience. However, the
need for information in specific contexts may be more complex than what the search process
model can provide. We need to understand how students write in history based on the role
available to them; that is, neither as practicing historians nor as novices apprenticing into the
practice of history. Students need to be able to write from within a discipline—the deliberations,
appraisals, developments, and consequences that have been established—whereby they may
position themselves legitimately as an author.

The current practice of the school library program follows a theoretical model of applied
information skills: procedural knowledge and the skill acquisition of information retrieval occur
within a specific informational context. The research process is commonly defined to include
retrieving, synthesizing, analyzing, organizing, and evaluating information (American Library
Association, 2001). Students define a need, and devise appropriate search strategies to satisfy
this need. In school library literature, this need is often defined as a gap in knowledge. Students
state what they know about a topic and determine what remains to be known. Tasks and
questions prompt students to demonstrate their knowledge, understanding and skills. Different
genres exist in the materials that student use to construct their own writing, which in itself
represents a different genre. The goal is to make students aware of how different genres they find
are motivated by different contexts of use. Holding the view that “argument” exists as a universal text-type can obscure the discursive differences between disciplines and the discursive differences between texts. So, for example, the students’ task is to interpret facts in an academic history paper, not simply present them. When the way things are is not taken for granted, but explained, very different discourse patterns arise. Students who are asked to construct interpretations and arguments are learning to write ‘from’ documents whose content does not simply exist in an abstract sense; “sources” are embedded in a particular view at a particular time of what constitutes knowledge in a certain discipline (Wilson, 1968). Walton & Archer (2004) state that critical evaluation of sources requires prior knowledge of a discipline. This suggests that academic literacy might actually precede information literacy. Because the library erases that situation, the original motivation to write, the ultimate retrieval of information may be misleading. A conception of information as logical and neutral ignores how students’ cognitive efforts are conditioned by social position (background knowledge of the topic, experience with genre, familiarity with the social situation the genre serves).

Resource Based Learning (RBL) is one of the principles guiding expectations of how the school library program works. RBL "is instruction using methods of teaching and learning wherein students use resources to satisfy their curiosity and find and research appropriate answers to problems" (Seaman & Lockwood, 2002). RBL utilizes resources from the Internet, encyclopedias, reference books, non-fiction, fiction, videos, pamphlets, vertical files, software, and resource people (Coquitlam District Library Committee, 2001). However, how the genres retrieved by students are useful to particular types of tasks is not considered in the documents of pedagogy. This contrasts with our expectations of how the library works in connection to the
classroom. One of the aspects of RBL is collaboration, and cooperative program planning, whereby the subject teacher and librarian jointly plan units to integrate information literacy skills with content area learning. The Provincial Learning and Assessment Program (Ministry of Education, BC. 1998) is designed to provide systematic collection of information about student learning for the management of education. Its goals are to evaluate student achievement and performance standards, to gather information useful in making curriculum revisions, and to gather information useful in modifying instruction. These studies are designed to compare and measure student growth over ten year periods, and are conducted in Grade 4, 7, and 10. The Social Studies, Science, and English programs were reviewed and showed decreases in student achievement in areas such as information seeking, data collection, and interpreting information. Although the school library’s role centers on providing research-based projects, collaborative planning, and accessing information, no mention is made of the connection of the curriculum to the library program in the study’s recommendations. In all subject areas, there are recommendations to teachers to use supplemental resources, and for the Ministry to make available supplemental resources, yet no mention is made of the teacher-librarian’s role in connecting teachers with curriculum enriching resources. It would seem that roles and responsibilities represented as belonging to the library program mandate have been relegated to classroom teachers; however, as the recommendations year after year do not change, it would seem reasonable to suggest that classroom teachers are not receiving the training and support to carry out these roles.

Key ideas, arguments and interpretations with which students need to wrestle in order to construct a research paper are not reflected in the indexing or classification systems. An
editorial, while offering a distinct point of view, nonetheless is written to have an immediate impact—often emotional. A columnist does not offer an in-depth analysis of an issue, and it may be difficult to bring such a popular voice into a scholarly discussion. These sources themselves have a rhetorical purpose, a significance in the original context that shapes their discourse patterns. The characteristics of the sources used in turn have a shaping influence of the student essay genre. For instance, the sources students use may include news reports, biographies, or reference material. In biographies, the purpose is to establish themes and make connections. Biographical information, though, may be mismatched with the purpose of creating a history research paper. Whether the information found is biographical, reference or journalistic information, for example, is not often considered in library instruction manuals. Research into searching behavior of high school students describes information as if it is ‘out there’ and the students use searching skills to locate this information (Kapitzke, 2003). The library itself is seen as “an autonomous repository of knowledge.” Through examining how students select text to cite, and how they organize and connect information in their texts, we can begin to understand how students internalize and undertake the task of historical writing. While information behavior research has ignored genre characteristics in its theories of how students access information, similarly, composition theory has neglected the role of the systems for knowledge organization (such as indexing and subject classification) in writing activities.

1.2 Purpose of the Study

The purpose of this study is to develop techniques that can represent a writer’s task estimation by examining the particular features (disciplinary or otherwise) present in her text. These techniques can contribute to a methodology that may eventually provide a way of
investigating the issues of how particular groups of users interact with information systems. These hypotheses about language can be used as a guide to further investigation which may lead to a theoretical integration which, at the same time considers disciplinary differences and forms a coherent theoretical frame for knowledge organization and information retrieval. In this study, I intend to discover students’ motives to write, their interpretations of writing as social action realized in essays and some textual features of an academic high school history essay genre. By examining a few instances of high school history research, we can begin to systematize the features found beyond the sample to a larger study. The underlying issue is how we link information retrieval systems with genre features in order to signal function, usability and application. Current retrieval systems like Google retrieve lexical items with little context to how these documents may fit in with the social purposes of the user. The potential of pragmatic analysis in information retrieval research is not unprecedented. Retrievalists, though, have tended to focus their attention on examining documents contained within the system, rather than contextualizing the use of these documents. This research proposes to examine the contexts of use as projected through the writing of the high school history student.

Retrieval models for Web genre classification have been proposed since the year 2000. Because of the expense associated with extensive linguistic computation, web classification research has tended towards a more formal means of genre classification. For instance, the WEGA project proposes large text-types such as discussion page, article, or commercial sites. An “article” in a textbook, though, is different than an “article” in a journal from the American Historical Society. A “report” by the United Nations on climate change differs significantly from a science journal “report” on carbon dioxide measurement, and also from a news issues “report” summarizing this information for public consumption. Their goals of analysis exist at a high
level of abstraction and ignore the social processes, for example, that historians use in
constructing knowledge. New rhetorical genre theory problematizes the formal classification of
genre. Genres in a new rhetorical context are classified by the action that language users
recognize as performed. Pragmatic analysis provides a more nuanced picture of genre that is
more situation-specific. Linguistic regularities interact with situation-specific rhetorical goals;
the motives of the rhetorical act shape the formal discursive patterns. By tracing the relations of
disciplinary genre systems through the boundary of the classroom genre system, it is possible to
construct a model of the interactions of classroom practices with wider social practices, such as
classifying documents for retrieval.

Rhetorical genre theory will be used to examine whether there is a problem with students
writing high school history research papers. Rhetorical genre theory will also be used to
determine the method of analysis. There may be a slippage or gap between what counts as a
history research paper in university and what history research papers look like in high school.
This slippage may have consequences for students as seekers of information, and larger
implications for how students view knowledge. Students generally have little time for unpacking
or analysis of the task, and may be unable to differentiate between specific stylistic features in
writing history as opposed to a general-purpose 'opinion essay'. The sources students retrieve
may be mismatched with the rhetorical goals of a history paper. Moreover, the classification of
student writing as “report” or “exposition” may be at too high a level of abstraction to improve
our understanding of participants in the library, and to provide coaching and direct feedback.
Rhetorical genre theory questions the authenticity of students writing in this genre, and sees
these categories as problematic. There is no fusion between the language and the situation—what
motivates the writing in the first place. The library is meant to provide resources that are serious
enough for students, and accessible to their grade level, yet it is the activities and reasoning of
the classroom that inform what kinds of writing and resources (scholarly or public) are
considered acceptable in the particular social context.

The goal of this study is to investigate the intersection between classroom and library in
order to be better able to anticipate pathways into organizational domains of disciplinary
knowledge—even as students follow the logic of their own inquiry, and to be able to direct them
to particular kinds of available resources implied within the recurrent features of the genre. The
components of the student research paper /task will include the characteristics of the different
secondary resource genres used in constructing the research paper: reference sources provide
comprehensive accounts of information. Students who use reference sources may be pulled
toward "telling" about information as if they themselves were an authority. The relation between
the motivations of the high school history paper and the sources retrieved may not be a
functional match: there may be mismatches, crossed signals, and adaptations. Or, if there is a
match, one questions whether the match may advance or obstruct the larger goals of the
curriculum. In trying to avoid plagiarism and have an opinion, students may cite sources
differently than historians—they may cite facts of history, but they may not acknowledge that the
disciplinary knowledge was "constructed" in a particular way in a particular source. When
students are asked to write research reports in science, for example, they mainly resort to
copying passages of text from research materials they have found (Wignell, 1987). Or asked to
take a stance, for example, on the justification for the United States bombing Hiroshima, the
student may apprehend directives from the teacher that what is required is to have an ‘opinion’
which is then backed up by ‘facts’ that are found. The student may find, for example, 3 different
interpretive accounts. Told that she is to write an original paper, the student may believe that she
is to construct a new interpretation, or to add on her own view as one among many. Research, as understood within a disciplinary perspective, focuses on how facts are made through interpretation. Knowledge is built upon the perspectives of scholars within a particular field. The high school research paper, then, is an unusual genre in that it requires that students, who are, in all likelihood, not writing for publication, compose an original document using publications that they have sought and found.

1.3 Significance of the Study

What constitutes “research” is contingent upon the context. History textbooks, too, rely on the research literature of the field, but cite them in very different ways than research articles. The textbooks:

codify, select, sequence on pedagogic principles, and explain in a unified way the aggregate of knowledge gained from the literature, whereas research articles use the literature as resources to make the case for their new claims or competitors to be removed (Bazerman Bazerman Charles, & Joseph Little, & Lisa Bethel, & Teri Chavkin, & Danielle Fouquette, & Janet Garufis, 2005).

Historians read and write opinionated arguments about what the past was like and why others had it wrong. Students have to deal with conflicting opinions as they lay out the facts, the story and the chronology in order to take a stand. Students are required to access and select relevant sources and make connections between texts in order to compose new texts. Genre provides the keys to understanding how to participate in the actions of the particular community (Miller, 1984). The social theory of writing and the new rhetorical genre studies (Bakhtin, 1986; Miller, 1984/1994; Freedman & Medway, 1994; Dias, Freedman, Medway, & Paré, 1999) suggest that
upon entering university, student writers engage in situations in which they have to produce written texts, particularly academic essays, as responses to the motives socially accepted and defined in academia. For university students, the purpose is to create or add to knowledge while recognizing those scholars whose existing work has helped in this pursuit. However, few studies have investigated the socially defined motives of academic high school writing from the new rhetorical genre perspective as discussed by scholars such as Miller (1984), Bakhtin (1986), Swales (1990) and Giltrow (2002). The academic research genre is unique because its epistemic role is not to reproduce information, to inform policy, or to reach consensual decision, but to test and develop ideas (Giltrow, 2001). What is absent from the research of school library use is how the kinds of knowledge expected from the students, and how the kinds of uses and manipulations that information is to be put through are connected to the access and retrieval of information.

The main aim of this thesis research is to determine methods of data collection that will best capture a set of data that reveals what genres students recognize, and for what tasks/purpose the documents of specific genres are useful. Contextualizing the use of these documents will be accomplished through the use of rhetorical genre theory analysis based on a case study of a History 12 learning unit on a historical topic, conducted over one month and culminating in a library research paper. The overarching question is how the attempts to retrieve information for the purpose of constructing a history research paper may respond to the disciplinary activity of the high school history classroom. The central question asks: **What assumptions about language and knowledge are embedded in research essays and how do these relate to how students search for information sources?**
This study will describe three students in a Grade 12 History class in a university preparatory school in British Columbia. Students are acquiring both information literacy skills and historical writing skills as they carry out major research papers. A series of research questions can be developed based on the relationship between the information behavior observed and the writing produced by the students in this study:

1. **How does the formal shape of the students' texts relate to their understanding of the purpose of research? What view of the world and of knowledge is represented?**

2. **What searching behaviors interact with the students' understanding of the research genre?**

This study will identify and describe the strategies employed by three upper level history students as they search for information to compose a history research paper. Furthermore, the study will identify and describe the strategies employed by the students in their representation of the ideas and resources found. Finally, this study will examine whether any connections exist between the student genre and how students search for information in order to:

- Use linguistic data to support analytical claims about how the text is produced and received.
- Look for regularities—particular linguistic features that occur under certain conditions in the discourse data.
- Discover and describe the linguistic forms relative to the environments in which they occur.

This study seeks to examine questions pertaining to teachers’ and students’ processes and perceptions in constructing research essays using electronic retrieval systems. The study also provides a description of the range of tasks that students performed in gathering information as
well as describing the links between the information seeking process and the student essay genre.

Donald Case (2002) argues that searching for information to create an academic research paper has not been well studied because the contexts are viewed as unique, that is unreplicable. Searching for relevant articles to complete a research paper, though, may not simply be a unique individual search. Repeated searching behaviors may be linked to the formal and situational features of the genre. For example, a conceptualization of research as ‘personal opinion’ substantiated with facts may result in a different search process than a conceptualization of research as a means of participating in a disciplinary conversation, or a conceptualization of research as reproducing established knowledge. Understanding situation-specific genre requirements may help librarians to coach and provide feedback to students in the search for information.

1.4 Outline of the Study

Following this chapter, I begin with a discussion of the theoretical underpinnings of the study. The rhetorical nature of knowledge claims is discussed with reference to problems stemming from the naïve assumption that knowledge exists objectively and the goal of high school students is to find and reproduce it. Studies and theories from Bazerman (1994), Miller (1991), and Giltrow (1990) on how claims to knowledge are realized in typified rhetorical actions are discussed in order to frame and situate the case study. This is followed by a more detailed discussion of the relationship between the linguistic features that establish the basis of knowledge in the student history paper and in the larger disciplinary context. I will first look at North American genre research, with examples drawn from research on writing in the disciplines
in secondary and higher education. Studies of historical composing practices, that inform the subsequent case study, are summarized (e.g. Young & Leinhardt, 1998; Stockton, 1991; Geisler, 1991). The goal is to move toward a theoretical framework of how students use the discursive tools of classroom genres to interact (and not interact) with social practices, such as classification schemes, and to identify characteristics of information storage systems. A rhetorical approach to indexing is then introduced with regards to how students might interpret genre requirements within search results.

Chapter 3 delineates the methods and procedures used in the collection of data for this study. Procedures that were used to gather assessments of how students view research and the impact on the search process are also described. The results from the application of procedures and techniques described in Chapter 3 are presented in Chapter 4. I end with Chapter 5 which concludes the study with a review of the major outcomes of the research. This chapter also presents a number of implications for language representation research in indexing systems, and in searching instruction. Lastly, a number of directions are suggested for further research.
CHAPTER 2

LITERATURE REVIEW

The analysis of written discourse has generated considerable interest both from the point of view of information retrieval and education. Rhetorical genre theory is concerned with how language functions in a certain situation. There should be a correlation between what students believe is the purpose of history research, and formal features found in their texts. The underlying issue is how we link information retrieval systems with genre features in order to signal function, usability and application. Carolyn Miller’s definition of a socially constructed situation indicates that recurrence is defined through typification which is itself a social act of addressing a social need (1984). For example, the high school history research genre has situational regularities. The students’ understanding of the purpose of research papers will influence the formal shape of the text. These texts can be analyzed in terms of linguistics pragmatics. Patterns will arise in these texts, despite their different authors. These patterns can arguably be accounted for by an understanding of the interaction between text and context. This research proposes to examine the contexts of use as projected through the writing of the high school history student. If students believe that history is a contested interpretation of events, then certain linguistic features will likely be prominent—such as ones that limit the state of knowledge, or ones that report on the state of knowledge. The situational context also includes students' interaction with electronic information systems-- how documents may fit in with the social purposes of the user. Genre theory explains the patterned activities that people employ in order to accomplish a social action. These activities intersect with the patterns of how
information is organized in databases, and catalogues, such as provisions for using keywords, annotations, and subject division.

The accessing and evaluating of relevant information has become a primary goal of information skills instruction. A problem often presented is that students lack discernment and use low quality web-site sources for their research papers, and school and academic librarians have been given the job of addressing this deficit. With the explosion of online publishing, students themselves are publishing informational websites often under the umbrella of an academic course. This compounds the problem of finding good sources and discriminating amongst them. Students do not believe that everything on the web is true; however, they do have difficulties ascertaining the purpose of the university, and how knowledge has been constructed and generated through a peer-based process of shared disciplinary understandings (Meola 2002). Nothing is really accomplished by exposing some untruths on the web. The school library is a powerful locus to support an alternative discursive practice in a school, provided that the metaphor of the library as warehouse, as “autonomous repository of knowledge,” is challenged by other meanings such as a place for free discourse and critical activity, as well as a place for social action.

The mystique of the library—the library as a warehouse of knowledge-- is created by the myth of universality. Talk about the “library” carries assumptions of absolute inclusiveness and near-instantaneous access. The current conception of the “virtual library” offers a vision of “a vast (ideally universal) collection of information with instantaneous access to that information wherever it resides” (O’Donnell, 1998, p. 28). The design of an information retrieval plan must be situated in the goals and objectives of the course of study, but because the library erases that situation, the resulting retrieval of information can be potentially misleading. For example, a
recent study of information behavior in high school students searching the web (Fidel, Davies, Douglass, Holder, Hopkins, & Kushner, 1999) examined tasks that required students to locate specific information in response to prompts. In this particular case, students were asked to locate information on a plant for a horticulture class. The researchers examined students’ procedural skills in navigating the Internet, and also examined the writing constructed by the students. In one case, a student mentioned that a particular plant was useful in creating a nice hedge, an obvious selection from a gardening website. Because the access and retrieval of information is divorced from the aims of the discipline, possibly the classification of phyla and the description of determining characteristics, the resulting retrieval of information is potentially misleading. Because use is the final stage in the information process, this problem is approached by examining the assumptions about language, knowledge, and genre that teachers and students bring to research assignments in the school library.

This chapter overviews the academic genre learning difficulties that students face in their transition from high school to university, then surveys the responses rhetorically focused educators and researchers have made in their attempts to elucidate the genre requirements. Linguistic pragmatic analyses of historical writing specifically look at how the form of the language is interconnected with the rhetorical goals of the discipline/task. This would include formal patterns of reporting the texts of others, of stating the limits of knowledge, and of organizing knowledge.

If genre is to be a useful concept in information retrieval in educational settings, it needs to be substantive—arising out of the typical tasks and assigned resources in a particular course of study. The characteristics, motives, and goals of a genre change in different educational and professional settings. Information retrievalists (e.g., WEGA 2008) aim to develop computational
means to discriminate amongst the genres of Internet documents. Genre categorization would then help users to develop a higher level of discernment in their information gathering using electronic environments. The identification of formal features, though, while not considering the rhetorical situation, may defeat all but the broadest of identifications (Giltrow, in press). The documents students locate as source texts will reflect a variety of genres such as editorials, popular historical information, news stories, photographs, political commentary or speeches, book reviews, or scholarly articles. The format of the genre tells you about the differences between different kinds of texts, but it is the situation that informs which texts can be meaningfully used to talk about an issue. An editorial, while offering a distinct point of view, nonetheless is written to have an immediate impact—often emotional. A columnist does not offer an in-depth analysis of an issue, and it may be difficult to bring such a popular voice into a scholarly discussion. Because the original situation of the document retrieved is erased, students may use sources that are mismatched with the purpose of writing a history essay.

2.1 Knowledge-telling vs. Knowledge-transformation Genres

The popular conception of ‘research’ as a compilation of source material may clash with the expectations of the academic genre. “Synthesis”, as understood in educational pedagogy, is a method by which students gather information from more than one source in an effort to either report on the research ideas of others, or to formulate possible answers to questions that have never been adequately answered. One of the problems with the former approach is that students re-represent ideas they have found as their own, perhaps citing statistics or concrete details, but omitting to acknowledge where the argument or stance is part of larger, on-going discussion.
Preparation for university requires writing that is able to reproduce different stances on an issue through the citation of established ideas (Giltrow, 2004). ‘Telling’ what one document says and then the next, and so on is not a pertinent feature of academic research genres. Writing from inside a discipline requires an understanding of the assumptions of knowledge within resources. Complexity, qualifications, and concessions are part of the construction of meaning. Prior speakers are respected and authors are committed to particular stances and roles. These features are embedded within domains of inquiry, deliberation, and controversy. Problem definition and what counts as evidence are part of the adjudication of disputes and the forging of communal values. These concepts are used to strategically shape and interpret texts and are essential to a definition of the research process.

2.1.1 Knowledge-telling.

The popular conception of ‘research’ as a compilation of factual source material clashes with the expectations of the academic genre. Cheryl Geisler argues that novices see texts “as autonomous repositories of knowledge” (Geisler, 1994, p.87). This framework is consistent with Scardamalia and Bereiter’s account of school writing: schoolroom reports have students ‘tell’ knowledge, to demonstrate ability to list facts and/or data that the student already knows, or has gathered (Bereiter & Scardamalia, 1987). In a schoolroom report, the writer comes up with a list of ideas that are often no more than a list of loosely connected items. Transfer of text from an information genre into a student essay genre does not necessarily constitute historical reasoning:

“the school is a non-research environment, not based on genuine research questions but on the understanding that there are right answers to find, compile, and re-represent. This forms the basis for information seeking as fact-finding and research, as transport and transformation of text” (Limberg 2001, p. 44).
Knowledge-telling consists of a semi-structured summary and reproduction of facts. Students can easily “look up” facts. The five-paragraph essay is an example of this organization structure—introduction, three paragraphs, and conclusion. Students make topic and sub-topic statements with a concrete detail used to "back up" each point. Facts are reproduced and summarized. This pedagogical approach can be described as Reading in the Content Areas:

[t]here is a heavy emphasis on textbook reading, focusing attention on such skills as information extraction, main idea identification, and inferential reasoning. The field devotes little attention to other disciplinary reading activities, or the use of the reading in a variety of writing settings (Bazerman et al., 2005).

Bazerman et al. further add that high school curriculum is defined as content “packaged for classroom transmission” rather than knowledge that is connected to a university disciplinary practice (2005, p11). The rhetorical features of textbooks are organized for ‘telling’ about information. In a school room report on women's roles, for example, students would describe different classes of women: women in teaching, women in law and medical schools, etc. A school report is often considered arhetorical (Freedman&Medway, 1994), because content is often transferred from one medium to another and students are not expected to take the goals and objectives of the disciplines. This method may not equip the writer with means to cope with multiple outside sources of information.

Coffin (2006) identifies the genres of high school history class as moving through a progression from recounting history (time-order) to accounting for ‘why’ things happened in history (explanation). She argues that as students move through schooling they are required to write explanations involving a sub-set of factorial, and consequential explanations--accounting for
a phenomenon for which there are a number of causes or factors, or explaining a phenomenon which has a number of consequences. Coffin proposes that expository writing across subject areas includes the semantic meta-frameworks of causation, comparison/contrast, problem-solution, description, and time-order. The secondary texts that students construct are defined as exposition, discussion and critical review. Genres may also include reports, explanations, historical accounts, and interpretive responses. Challenging history is an example of an ‘arguing genre.’ These text types exist at a universal level. Research into genre from a systemic functional linguistic approach, though, may be at too high a level of abstraction to improve our understanding of participants in the library. Students must access sources that are written in a certain genre, and they are also required to construct a particular genre out of these different resources.

2.1.2 Knowledge-transformation.

When students research and write historical arguments, the library erases the original situation from within which the students are writing. The student, though, must take into consideration the assumptions about historical knowledge that arise in the classroom. Moreover, response to the requirements of the assignment is itself a demanding task: a representation of content knowledge, accompanied by expressions of personal authorship, all compressed within strict limits of length and format. Through the arrangement of scholarly voices, the student may discover a gap in the knowledge, or even add to the knowledge base in the particular community of knowledge. This is a “knowledge transformation” genre, and requires that students use an ‘individual voice’ to take on a consensual problem. Russell & Yanez (2004) examined the writing difficulties of first year history writing through the lens of activity theory. Students must access
sources that are written in a certain genre. They are also required to construct a particular genre out of these different resources, yet these retrieved genres reflect a different situation. On one hand, the document genres retrieved reflect a different situation, perhaps writing to inform or persuade the public, or to persuade other experts. On the other hand, the high school students’ situation and the genre definition are inadequately defined. Professional historians critically examine and interpret (and reinterpret) primary documents according to the methods (rules, norms) of history. Sources could include: newspapers, private and public correspondence, speeches or writings of the individual concerned, the records of institutions (educational, legal, religious, or political). A newspaper article will often lack historical consciousness, and lack a good deal of less-obvious facts about a given event. This doesn't invalidate a newspaper article as a source, but it does place limitations on what it can be used for. A newspaper article could provide some factual information about an event itself, but it is always interpreted through the lens of a historian aware of its limitations. Historians argue and debate to persuade other experts. And when enough experts arrive at consensus, that consensus is put into textbooks for high school students and generally perceived as 'fact.'

These commodified statements, translated into various genres, are what introductory students, patients, clients, customers, newspaper readers, TV viewers, voters, and so on are presented with as factual information (our bodies are made of cells; Shakespeare wrote 46 plays; flossing prevents gum disease) (Russell, 2004).

Research tasks, though, are not based in textbook prose, but are document-based. The use of documents to create research papers requires students to access and select multiple sources, integrate points from a range of documents, and interpret and manipulate information as an author (Young&Leinhardt, 1994). Haas summarizes research studies that suggest:
beginning college students approach academic tasks as if they believe that texts are autonomous and context free. Treating tasks as if they believe that texts are autonomous and context free may be facilitated both by features of academic discourse itself . . . and by a culture of schooling that encourages students to see texts primarily as repositories of factual information (Haas 1994, p. 46).

The library itself is seen as “an autonomous repository of knowledge.” History is not isolated from society, but students tend to engage in social conversations about the validity of conclusions within the classroom. If students were given sources rather than practicing poorly matched topical searching, they may learn more about the discipline.

2.2 Interaction of Genre and Information Behavior

Without a consensus on what a high school history research paper looks like—on how and why to write them—several problems are likely to develop. Entering an electronic information retrieval system, students may evaluate the relevance of sources based on topic alone, disregarding the stance and motivation of the document. Students may engage in “document telling”; that is, writing ‘about’ documents as if document content is ‘true’ and only needs to be ‘catalogued’ (Young&Leinhardt, 1998). Depending on the social action to be accomplished, different genres may induce different information behaviors. Information behavior research conceptualizes a variety of types of behavior depending on the social action to be accomplished (Foster, 2003). A conceptualization of research as ‘personal opinion’ substantiated with facts may result in a different search process than a conceptualization of research as a means of participating in a disciplinary conversation. The failure to retrieve relevant documents will likely cause the student to change her ‘opinion’ to suit the information
that is found. In this search model, the process of thesis generation and resource selection mirrors and interacts with the search for information. The information sources themselves may drive the research process, rather than the process of scholarly inquiry.

2.2.1 Information search process model.

Much of information behavior research in high schools has focused on information seeking as a process involving initial topic definition and re-definition through searching. Current conceptions of student research have the student identify a topic, gather background knowledge, and reformulate the task; that is, they ‘discover aspects of their topic’, ‘find a focus’ and ‘narrow down their searching’ (Kuhlthau, 1985) which coincides with their searching process. Kuhlthau identified six stages in the information search process: initiation, selection, exploration, formulation, collection, and presentation. This model has been used to train teacher-librarians in research skills instruction. For example, a topic is the general category of history that will be researched. In the Information Search Process model, the topic at the beginning of the research process will be very general and it will become narrowed through the initial search for information. For instance, a student might begin with an interest in the topic of women’s rights, and then narrow that topic to pay equity, and then discover further aspects such as debates about men’s and women’s paid work roles in Canadian popular media. Thus historical research, in this model, would begin with a bibliographic survey of general secondary sources and then move toward more focused secondary sources. General secondary sources could include encyclopedias (whether on-line or in print) and history textbooks; more specific secondary sources could include exhibits at museums or on the Web, articles in historical journals and more
specialized works of history. Finally, research would move toward primary sources, setting them into the context of the secondary sources. This model is meant to be universally applicable to any domain but makes no claim to consider factors and variables such as the type of need or the characteristics of information that might satisfy it, or the availability of sources and their characteristics (Case, 2002, p.116). Genre is too complex to be served by a search model that does not take into account local contexts. Kuhlthau’s information process model seems to address a very different model of knowledge construction than what could be described as disciplinary knowledge construction. Another description of searching behavior in this particular context may reveal that reformulation of the topic is not as prominent, and that a representation of the searching process may look differently when informed by genre. It is essential to understand how information is used to address a problem, otherwise we do not know if ‘librarian talk’ about information retrieval is adequate to the writing task.

2.2.2 Information behavior informs writing.

Subject searching tends to mean keyword searching for historians (Tibbo, 1993), which aligns with a topic-based approach to history. Words and concepts appearing in titles, though, can indicate methodological or theoretical orientations (Bazerman, 1998). When professional historians approach an electronic information system, they bring with them a tacit awareness of the specialized language used in constructing historical interpretations. Jack Andersen’s examination of rhetorical and linguistic features in citation abstracts reveals discipline-specific standards: practices of reasoning and theory choice. Andersen states “we should not assume that the way scholars are looking for documents is different from the way they write (and read)” (Andersen,
Andersen establishes that historians rely on contextual cues found in titles, abstracts, and even authors. Selection of documents is based on the underlying arguments and claims (Andersen, 2004). Historians belong to ‘circles of interest’ that they use to evaluate search results. Disciplinary historians interpret evidence with a theoretical purpose (Leinhardt & Young 1991). A historian may identify her or himself with post-colonial reasoning. This historian would be sensitive to other kinds of assumptions or schools of thought (MacDonald, 1991). So, for example, a scholar interested in the issue of autonomy versus collective security may begin a search with topical keywords, such as "Maher Arar," but the scholar is able to read the contextual cues found in the bibliographic record to determine the pertinence of the source. For instance, the subject headings may include information on international law, international relations, or judicial assistance. The scholar is able to consult her background knowledge about genre, and establish that the article would be a neutral account of how the case fits into the framework of international regulatory bodies. Studies have shown that historians bypass classification systems (Tibbo, 1993), instead they draw on their own professional knowledge to identify the cues that indicate the theoretical orientation to history within the document. Historians move laterally through the system instead of relying on the hierarchical categorical relationships used to describe the document.

2.2.4 Students' use of information retrieval systems.

Students writing a high school history essay may behave informationally different from those who are writing a history paper for a scholarly conference. Although adults working in academic environments make relevance judgments based on their knowledge of specific authors,
and the reputation of the information source, students are more likely to search and evaluate information based on concrete subject terms (Marchionini & Teague, 1987; Solomon, 1993). Novice students lack access to the circle of interests, conversations, and interests that make up a discourse community. Lacking access to these ‘circles of interest’, a student may be unable to apprehend directives from teachers and may be unable to accommodate other views in formulation of their own. Students who are using electronic retrieval systems will retrieve a myriad of document genres that are relatively undifferentiated in the results display as to their purpose or function. This is particularly a problem when doing historical research paper writing. Scholars interact with documents, but students interact with the classification system. Students will thus cope with the features of the electronic system in different ways than historians.

The perception that writing an argument is like an oral debate may lead towards a compilation of discrete sub-topics; such as, reasons for the development of the Atomic Bomb, the balance of power in economic relations, or the battle of Okinawa, for example. The student looking for a historical interpretation on the effects of the bombing of Pearl Harbor may discover an informational article that presents an overview of the topic, or a research genre that questions established information, or even an opinion essay. The classification system with its topical categorizations may reinforce the simple notion of historical content as known facts about events, and of historical texts as truthful objective accounts. For example, the topic of Pearl Harbor is approached very differently by the Hollywood genre serving the purpose of entertainment than by a popular article in the New York Times serving other purposes. Students who are required to analyze and synthesize diverse perspectives and position themselves in relation to established knowledge are not aided in this task by classification systems which fail to index the underlying disciplinary assumptions.
2.3 Situational Aspects of Genre

The students' understanding of the purpose of research and of the genre requirements may drive the research process. Because classification systems do not index the underlying argument, this may contribute to the perception that the information is incontestable and need only be retold. Jack Andersen states that classification, cataloguing, and indexing emphasize surface statements, and argues that more informed indexing could promote critical activity. More informed indexing of the underlying motivations of the particular discourse could contribute to a more advanced understanding that knowledge is produced, contested, and contingent. Because users’ needs and information use are situated in specific contexts, the types of resources considered relevant and useful change with the context (Taylor, 1985). For example, a student may be asked to support the thesis that economic strife is conducive to totalitarian governments. The student may find information on Germany and unemployment statistics pre-World War II. They may find information on forms of government. The student will represent significant players and events in the development of the chronology. But the ideas, practices, proposals, terms, and quotations are embedded in social, intellectual and educational contexts. In order to ‘take a turn’ in the conversation, the student must take a position vis à vis these proposals. Searching for information in the library requires that students are able to reconstruct this context, the motive to write, when selecting appropriate resources. These expectations are shaped by major contextual influences, such as disciplinary knowledge.

There are regularities in the contexts (writing situations) found in the classroom. Historical content and rhetoric look differently depending on the particular community and its writing tasks. For example, in a particular case of Canadian women’s history, the resources required might
examine the role of individualism, or the economic basis of war. The student may, instead, use articles on racism or women aviators, which could be irrelevant to the purposes established in the classroom. Any course of study will be taught through specific lenses. The course assumptions, for example, may be an examination of political economy through the lens of social history. These assumptions would govern which types of resources are considered acceptable. The topical descriptions ‘Women, social issues’ say little about the contextual motivations of the genre that is found. The student navigating the electronic systems may be content with information that is ‘about’ women in World War II, at home or in the military, categorizing information that is found under subject headings into a general report that does not fulfill the requirements of the research genre. A student acquiring the new academic task of writing within a discipline may lack the knowledge to make genre distinctions that are important, and cannot identify contextual clues that would speak to a user more familiar with the genre’s routine conventions. Incorporating non-topical characteristics of documents into the representation of genre may allow users to clearly identify the relevance of sources to their information need.

2.3.1 Rhetorical indexing.

Research into information literacy tends to focus on the acquisition of concrete searching skills instead of on the learning of discursive practices within the context of an academic discipline. It is the assumptions of the course of study, realized in the research essay genre, which may determine the pertinence of sources to the particular task. The high school research paper will reflect the activity of producing knowledge in the classroom: for example, through embedded assumptions, vocabulary, and informed structured controversies. Students writing history papers
need to be able to re-represent points and arguments already established by professional historians. Incorporating non-topical characteristics of documents into the representation of genre may allow users to more clearly identify the relevance of sources to their information need. For example, students writing within the disciplinary genre of sociology would be receptive to disciplinary assumptions. A research paper would incorporate theoretical perspectives of the discipline. The assumptions would govern how one is expected to talk about a topic. So, for example, a student researching women’s rights in different countries would have to address the disciplinary assumptions of how groups behave, such as concepts of cultural relativism, or ethnocentrism, or individualism. Sources written from a different theoretical perspective would not be relevant in the context, perhaps the psychological aspects of abuse. A student researching in history would need a nuanced understanding of state, nation, and independence and how these assumptions govern historical perspective. It is these disciplinary assumptions that may influence the process of accessing information to complete a research paper. Information retrieval systems obfuscate these distinctions by organizing information solely through topical indexing.

2.3.2 Indexing.

The main purpose of indexing is to construct representations of items in a form suitable for inclusion in some type of database for purposes of retrieval in the future; thus the purpose of indexing is to construct representations of documents and to support the judgment about the documents’ relevance to the information problem without physically examining the actual documents (Blair, 1990). In order to do the history research essay 'genre', all the students’ behaviors in the situation would be contributory to the genre. These patterned activities will
intersect with some other patterned activities, such as the genres that accomplish the social action of classifying/organizing information. And yet, even with overlap, the electronic information retrieval system may not support the relevant decision tasks. According to Roxanne Mendrinos, with instruction in the structure of online databases “[t]he student identifies the relationships among the data for access and retrieval, analysis and evaluation, focusing on similar characteristics and attributes....Through repeated information searches, one develops a cognizance of the thinking patterns that are used for conceptual attainment” (Mendrinos, 1994, p.10). The classification of items in an electronic system is meant to disambiguate the document genres; however, classification based on topic alone may actually occlude the relevant sources needed to complete the task of composing a research paper when genre is the criterion of relevance. Because the cross-references in a retrieval system refer to a high level topical description, such as “World War II” or a lower level topical description such as “The Pacific Campaign,” the student may change the focus of her topic prematurely, choose texts that are irrelevant to her initial purpose, or become disoriented in the classification structure.

Classification systems are built on an epistemic premise that there is a way of organizing knowledge by grouping or classifying things hierarchically. Library instruction focuses on narrowing topics. Scholarly genres maintain coherence and relevance by high-level, abstract topic entities (Giltrow, 2005). Issues such as ‘marginalization’ of women in the labour force, ‘resistance’ to pay equity initiatives, or ‘fixed assumptions’ about female nature are both rhetorical in form and are content features of the discipline. Students are less likely to generate these conceptual terms. While information literacy has been connected to formal learning in academic contexts, it has rarely been seen as arising from complex, contextualized practice, processes, and interactions (Lloyd, 2006). Writing from within a discipline requires students to move from knowledge telling
(listing period and document content as separate information bits) to knowledge transformation (integrating content as interpreted evidence for an argument) (Young & Leinhardt, 1991). Reference source genres, such as encyclopedias, present discrete information for the purpose of looking up facts. An encyclopedia article may move from the causes of World War II to specific battles to foreign policy and international relations. However, a journal article published by a historical society will choose, select and arrange information differently than a general information encyclopedia. Terms at higher levels function as the bridges or synthesizing terms between different documents.

The problems facing students in the intersection of library and classroom may be caused by fundamental epistemic differences between classification systems (library and information science as a discipline) and the scholarly practices of other disciplines. Jack Andersen (2004) maintains that typified practices constitute and shape the function of knowledge organization, arguing that knowledge organization should be analyzed as part of typified activities based on document production and use. While information behavior research has ignored genre characteristics in its theories of how students access information, similarly, composition theory has neglected the role of the systems for knowledge organization (such as indexing and subject classification) in writing activities. Little critical attention has been paid to the integration of information literacy and course design (Boon, Johnston, Webber, 2007). Genre theory explains the patterned activities that people employ in order to accomplish a social action. These activities intersect with the patterns of how information is organized in databases, and catalogues, such as provisions for using keywords, annotations, and subject division. The library constructs a context with its information storage characteristics. The classroom constructs a context with its genre characteristics—linguistic/pragmatic features and patterns. These contexts intersect with each other. When
librarians narrow terms, though, they add concrete descriptors; for example, "girls sports teams." However, students have difficulty going up the levels of generality, and little difficulty narrowing concrete terms. For example, they are unlikely to come up with the term "leadership." Because abstractions are conceptual students have much more difficulty in generating those words. Instructors, too, may not be able to articulate these tacit assumptions that underlie and shape knowledge. For example, the goal of the particular course of study may be to develop an awareness of how religious and philosophical ideas have been powerful forces for defending military aggression throughout history. The student may have difficulty forming concepts such as regime change and subversive activities, though the words themselves are not particularly obscure.

2.4 Responses from Researchers

According to genre theory, terms gain their meanings (reality) from the perspectives we bring to events. Particular historical episodes of women working in various ways can be subsumed under "choice of labour", "shifts in female experience," for example. These formal features of texts are interconnected with the rhetorical goals and motives of the discipline—for instance, to explain patterns of group behavior, or changes in social systems. The typical method of indexing sources is to analyze the topic and its components and to synthesize separate concepts into one retrieval transaction. The topical subject heading “Women –Social issues” says little about the contextual motivations of the documents. One, though, has an obligation to situate one’s research problem into the issues deemed important by the relevant scholarly community, perhaps 'meritocracy and individualism.' These topical abstractions are the platform from which vast expanses of statistical and primary source documents can be viewed. “These abstractions not
only point back to accumulated reasoning but also can be extracted from the publication and indexed as keywords—to signal to researchers the site of scholarly conversation on a topic shared in a research community” (Giltrow 2005, p.227). It is the function of topical abstractions to establish a common ground, a collaborative consideration of topics that research communities are working on (Giltrow 2005, p.246). Relying solely on topical indexing, the student may find it difficult to locate resources that are pertinent to the research community, and thereby to the assumptions of the knowledge they are learning in their class.

2.4.1 Doing history.

Students who are 'doing history' engage in certain patterned activities. A description assembled from textbooks and encyclopedias is a general informative report; scholarly genres, in contrast, maintain coherence through abstract generalizations. The knowledge claims are reflected in the rhetorical composition. Halliday and Martin’s (1993) analysis of writing in the humanities identified nominalization and abstraction as characteristic maneuvers in academic writing. Students who are unable to represent the processes and events of history as nouns—abstractions--are not ‘doing history’ (Halliday and Martin). They maintain that by nominalizing actions and logical relations, we can organize our texts, not in terms of ourselves, but in terms of ideas, reasons and causes. Students who are “doing history” are ones who do not structure their papers by a spoken pattern, but organize their writing through abstractions. Written language is concerned with ideas/reasons. The main means of achieving these changes is through nominalization, wherein things that are not normally nouns are turned into nouns. So for example, the sentence ‘over the past 100 years, women have gained the right to educational

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professions equal to men’ is a spoken style. Spoken language is concerned with human acts, carrying out action processes, in dynamically linked sequences of clauses. This sentence could be rewritten ‘**Equal access** to the education professions has changed over the past 100 years.” That is to say, events and attributes are turned into things. Disciplines define long-term motives and shared objects, not just similar ways of discussing and defining problems. Halliday argues that once events have been nominalized as participants, the logical causal relationship can be verbalized between them. There is an inter-relationship between form and content. Without abstract language, it would be impossible for a historian to make generalizations about human experience, which have been drawn together and interpreted in these terms. In other words, in academic writing, the ‘common sense’ of a speaking style where nouns are people, places, or things is changed into the ‘uncommon sense’ of learned domains (Halliday&Martin, 1993) where processes and actions become nouns.

### 2.4.2 Knowledge organization.

Knowledge organization systems organize documents for retrieval with consequences. One genre may predispose a participant to look at information one way, while the accompanying genre may pull the participant towards another perspective. A history student may see historical knowledge as random bits of information to be reproduced and summarized. This may lead to information behavior that relies mainly on topic-based descriptions. In contrast, a practicing historian would have greater access to the typical language of historical reasoning, and use contextual cues found in abstracts to determine the purpose of the document. Andersen (2004) proposes that documents’ claims for knowledge and arguments made in favor of these have not
been properly addressed by theories of indexing and document retrieval. The central questions in organizing and representing documents for retrieval and dissemination, he argues, is the relationship between events in the world and the language that expresses them. Andersen analyzes how scholarly documents’ typical rhetorical features such as, taking a position in relation to other voices, and identifying the author as a member of a collective group are related to the indexing language. Scholarly documents simultaneously work to construct knowledge and to communicate it. Knowledge organization is, thus, "a social activity involved in socio-communicative practices" (Andersen 2004, p.1). Andersen argues that knowledge organization needs to characterize arguments and claims in order to be retrievable in ways that illustrate their rhetorical activity. D.C. Blair maintains that information retrieval systems have not considered the users’ context in representation of documents, citing an “insufficient sensitivity to the urgency of effective retrieval in a growing number of contexts, as well as a poor understanding of the pervasiveness of ineffective searching by library patrons” (1990, p.303). He proposes that the contextual dimensions of document representation be expanded and that subject descriptions need to be related to these contextualizations. Blair further argues that the ambiguity or indeterminacy of language is unavoidable when it functions outside of the activities or institutions in which it has a role stating “the goal of any document indexing strategy should be to build as much of the missing activity or institutional context back into the language of representation’ (1990, p.323). Form and content is interactive, thus an examination of how form and content interacts can provide a broader understanding of how the activity of representing documents for the purpose of retrieval is related to the uses documents will be put to. Andersen argues that the actual uses documents will be put to can add dimensions to the representation of knowledge that are neither ahistorical nor insensitive to contexts. He states that an understanding of the kinds of work literatures are performing in
scholarly communication is necessary in order to analyse subject literatures quantitatively, to develop retrieval techniques, and to organize literatures in a classification system (2004).

Classifications of texts are the constructions of a particular language community used for the pragmatic purposes of organizing information so that similar items will be retrieved together. How documents are indexed and classified affects retrieval and “impinges on how documents may be used to further public discourse” (Andersen, 2004, p.78). Information behavior analysis can be used to characterize how people who are working in the classification/organization systems, that is how the topic is represented in indexing language, behave differently from those working in the history-essay genre. Those who are working in the classification systems do not consider how the task of a high school history paper would match a representation of content (subject descriptors) in order to locate and select appropriate resources.

2.5 Rhetorical Genre Theory

A recent conceptual approach to understanding and researching the diversity of writing has been to consider how genre comes to organize different writing processes within different settings (Bazerman et al, 2005). Genre is not just a means of conveying information, but a way of achieving action that is defined and determined by its social relevance. Writers and readers (genre-users) recognize and identify with generic conventions. The old genre theory paradigm is not equipped to handle questions about difference—why, for example, science research texts exhibit a different pattern of citations than humanities research texts. The theories, understandings and concepts of composition studies such as rhetorical genre theory, as articulated by Carolyn Miller, focus on the social construction of rhetorical contexts as much as
on the textual regularities elicited in response (Miller, 1984), thus language cannot be detached from the particular situation it serves. Miller states that recurrence is the set of similarities constituting the classification principle. Recurring elements are aspects of social knowledge. Charles Bazerman (1988) examined the exigencies of scientific publishing and argues that inserting one’s research voice into a collective canon is largely a rhetorical move. Rhetorical genre theory ties the conventional regularities in genres to equally conventionalized typifications in the rhetorical situation. Bazerman’s study of the professional reading habits of physicists reveals how shared understandings are key elements in the social construction of knowledge (1985); however, he does not provide ways of identifying the formal and semantic conventions governing this discourse. We need to develop, refine, and use language to describe, understand and evaluate task and text.

2.5.1 Recurrence.

Carolyn Miller’s landmark paper on genre study, “Genre as Social Action” (1984) addresses the need for a new system of discourse classification based in rhetorical theory. She rejects the traditional usage of genre as a closed classification system based on formal characteristics. Classifying discourse in this way cannot account for changes in the social conditions that surround writing. Situating genre within its historical, cultural and social context leads to a new definition of genre. Form and situation interact to create genre. Following the work of Campbell and Jamieson (1978), Miller argues that the set of similarities used in classifying discourse should be determined through pragmatics. Miller establishes that ways of acting become typified through occurring under what is perceived as recurring circumstances.
Stylistic arrangements serve a particular cultural situation. It is in the analysis of these discourses and genres and the discovery there of “discursive regularities” motivated by situation that we find language’s subtle service to the orders of culture. It is not syntax in itself—but in regular, generalized habits of exploiting the resources of the sentence and the language’s pragmatic resources that the motivations for writing can be examined (Giltrow, 2005). What people are doing and how texts help people do it (not texts as ends in themselves), are revealed in the specifics of knowledge and thought associated with the genre. Students’ texts can be analyzed for typical syntactic patterns and pragmatic features in order to articulate the connections between the various text types used in constructing the student research genre, and how they contribute to the construction of the student research genre.

2.5.2 Typification.

The studies of expert/novice writing demonstrate that there are significant patterns in scholarly discourse that position a writer in her field of study. Researchers have recognized that the parameters which define academic discourse are not intuitive, nor do instructors succeed in making disciplinary conventions explicit. Thus the focus of composition researchers has been to employ strategies which uncover tacit expectations. The investigation of textual issues such as how critical texts can be organized, how arguments may be warranted and substantiated, the underlying rationale for choosing what to cite and where in one’s text to do so, and how to choose and select material relevant to cite reveals the ways in which knowledge-making is textually shaped. For example, Schwegler and Shamoon (1991) investigated written conventions that facilitated reader responsiveness. The reading practices of sociology professors had certain expectations of the
novice research paper. Texts taken from ‘A’ and ‘B’ graded papers were amended to omit certain linguistic registers specific to sociological discourse. Disciplinary, boundary statements containing discipline-specific terms were deleted from the student texts. This absence caused markers to comment on deficient analysis, even though the analysis was not generally altered. Experienced sociologists examined these papers. When the conventions of sociological discourse that guide response and interpretation were missing, the reader judged the paper as inadequate (regardless of the previous grade). The expert readers demanded a pattern of discourse that represented dominant issues and problems through specifically sociological, linguistic registers. Giltrow and Valiquette (1996) also examined how background knowledge plays a part in instructional commentary. They found that when students in sociology made errors in shared disciplinary conventions, for example writing about the individual instead of writing about groups of people, markers found the “argument” deficient.

These theorists provide a framework that justifies using genre theory and a linguistic pragmatic analysis of language style in order to determine the cultural specificity of the genre. These studies suggest that it is the shared assumptions of scholars that make writing convincing, rather than a closed, formal set of rules that define an “argument.” By examining the rhetorical situation, through linguistic analysis and interviews, a deeper picture of the genre structure may emerge and be related to the structure (classification) of items in a retrieval system.

2.5.3 Genre systems.

When students come to the library with a research statement, the original context of use is erased. For example, a student approaching the library with the aim of researching trees is going
to find a variety of orientations to that knowledge: they will retrieve resources that see trees through the lens of forest management, or species diversity, or environmental biosphere positions. And even within these different perspectives, the results will include what Bazerman (1994) refers to as systems of genres—for instance, activist or commercial genres, judicial genres dealing with aboriginal law, or eco-criticism—encompassing a variety of popular, legal, or scholarly genres. Differences in an information situation are reflected in the kind of document that is considered helpful. The course of study might be about the biosphere or gymnosperms, and a student looking for information might find information from Weyerhouser dealing with the lifecycles of the Douglas fir, or about insects. Students must access sources that are written in a certain genre, and they are also required to construct a particular genre out of these different resources, yet these retrieved genres reflect a different situation.

2.5.4 Linguistic-pragmatic analysis.

Rhetorical genre theory is based in a functional, pragmatic theory of textual meaning. Genres help language-users achieve certain aims, fulfill certain functions, perform certain actions, and do things with language. Within established genres, what are seen as formal conventions have developed as rhetorical acts and continue to act rhetorically (Miller, 1986). For example, the high school history research genre has situational regularities. The students’ understanding of the purpose of research papers will influence the formal shape of the text. These texts can be analyzed by means of linguistics pragmatics. Patterns will arise in these texts, despite their different authors. These patterns can arguably be accounted for by an understanding of the interaction between text and context.
Linguistic consciousness and reported speech

How students view research may be related to the formal shape of their essays. Language that represents evidential reasoning includes formal features for citing authors and attributing knowledge, and for limiting the state of knowledge (modality). Analyses can be used to show how these techniques serve the rhetorical purpose of the student authors. The syntactic form in itself has no socio-political meaning. In context, however, it may be interpretable as a sign of a typifiable set of social relations.

Case Grammar

Studies of the rhetorical specifics and strategies of individual cases of writing demonstrate that historians utilize major themes, such as the tension between power and freedom, as well as knowledge of events, to produce historical claims (Leinhardt & Young, 1991). Case grammar emphasizes the fact that no matter what syntactic structures one chooses to use to talk about an action, the actual roles of the participants (people, objects, forces, and locations) in that action remain unchanged. Case grammar is about how words are used in context. The filling of these roles correlates with a linguistic encoding of the world. This approach to the analysis of sentences assigns to each noun phrase what is called a thematic (or semantic) role, which captures or describes the relationship of that noun phrase to some particular action. Students may represent institutions, economic forces, or certain people as driving historical change. Certain case grammar patterns such as agent and experiencer are significant. For example, students may substantiate a statement of affect to a country; i.e., "the United States was afraid..." The main advantage of the case grammar approach is that it allows us to examine how students represent the players and events of history. The way students elaborate relevant details, qualify information, and attribute information reveal how historical content and rhetoric are represented in that community and its
writing tasks.

Citation Language

Linguistic consciousness can be seen in speakers' awareness of their own speech in relation to others, and in the expression of rules. They may be able to establish a self amidst the words of others. An 'opinion' that is located in source texts may appear to be in the public domain, up for grabs. While not all reported words belonging to someone else belong in quotation marks, students may flatten the differences between their voice and their source's in an effort to appear authoritative. When students cite information and ideas, they are representing language that was intended for a different cultural arena. Scholars use reporting expressions, documentation, and characterization of the source to help readers evaluate reported statements. Statements leave traces of their sources and their status as knowledge. The goals of avoiding plagiarism by having an opinion may influence, not only the patterns of citation and how historical knowledge is constructed by students, but their information behavior as well.

Modality

One of the linguistic techniques that reveals how students use supporting materials (i.e. reference, specifics on topics) is the use of epistemic modals. If students see themselves as participating in a discourse community, then formal features that evaluate the status of knowledge should be present. Modality is one way in which writers express the certainty of a proposition, or its limitations as knowledge. Some of the ways in which qualification and concession are apparent are through modals such as "seems to", "may", "perhaps," etc. The deployment of certain modal patterns determine what stance or role has the writer committed to, and why. Modalized statements signal indeterminacies within texts. Modal statements like "can cause" and 'can make", for example, inscribe limitations to the physical world of cause and effect. The typical conventions of
the student essay genre display deontic modals usually with recommendations for action in the world (Giltrow, 2005). Modal deontics refer to the constraints or resistances of the social world, words like "should" or "must." Dynamic modals represent the constraints and conditions of the physical world.

2.6 Conclusion

Miller’s definition of a socially constructed situation indicates that recurrence is defined through typification which is itself a social act of addressing a social need. While there are generic features of all writing, discipline-specific features respond to shared understandings. Students who are required to analyze and synthesize diverse perspectives and position themselves in relation to established knowledge are not aided in this task by classification systems, which fail to index the underlying disciplinary concerns. It is the subject specialist, not the librarian, who is qualified in the thought processes, aims, standards, and strategies of the discipline-based activity (Meola, 2002). Informed indexing could promote critical activity (Anderson, 2004); however classification, cataloguing, and indexing emphasize surface statements. More informed indexing of the underlying motivations of the particular discourse could contribute to a more advanced understanding that knowledge is produced, contested, and contingent.

The philosophical framework under girding this research is the idea that knowledge is a social construct. A socio-cognitive theory of genre situates knowledge within a discipline and its communicative activities. David Russell states that social constructionism generally views writing in terms of metaphors of social context (Martin, 1993), variously theorized as rhetorical situation (Bitzer, 1968), or community. Poststructuralist theories based wholly or in part on Mikhail
Bakhtin’s work in literary criticism (Bakhtin, 1981, 1986) have challenged these social
collection assumptions (Russel, 1997). Bakhtin’s theory of speech genres emphasizes a
metaphor of conversation and dialogue. Social languages are purposeful and dialectical and are
constructed through interaction in a social practice.

Genres correspond to typical situations of speech communication,
typical themes, and, consequently, to particular contacts between the
meanings of words and actual concrete reality under certain typical
circumstances…Both the composition and, particularly, the style of the
utterance depend on those to whom the utterance is addressed
(Bakhtin, 1986, p.27).

If as Bakhtin asserts, all utterances are dialogic and extensions of individual social interactions into
a cultural arena, then each piece of writing will be composed of the writer's past interactions with
the thoughts of others and of anticipated future interactions. Following Bakhtin, Giltrow argues
that the conceptions of the “originality” of the individual “voice”—a border between one’s own
language and the language of another--a “unique style ripe with individual intention” (Giltrow
2003, p.363) is part of linguistic consciousness. Information seeking and use should be posited as
“constructing” activities. The outcome of social action is tied to particular occasions and to other
participants in the situation. The focus of each of the students’ research statements will have been
motivated by a particular, but typical, purpose; that is, the statement will have been situated in the
goals and objectives of a course of study.

“Research” for high school students means find out and write down what others say; on
the other hand, scholars “develop and design” research questions (Giltrow 2002, p.275). A
scholar would never go to the library with the purpose of learning about women in Canada. In
scholarly genres, research is not about collecting information for which not much is known. The
major difference is that collectively, the group of experts is situated as ‘not knowing’ about the topic. Research in school situations, though, is often discussed in terms of “finding a topic.” This model of the research process as “finding a topic” and “narrowing it,” situates students as not knowing anything about the topic—their purpose is to learn content. In scholarly research, in contrast, the person posing the question is situated amongst other experts who have collectively determined the importance of certain types of problems over others (MacDonald, 1994). The purpose is to create new knowledge while recognizing those scholars whose existing work has helped in this pursuit. An encyclopedia or news commentary, for instance, would never be counted as a scholarly source in university. While students need to represent background information on a topic when writing historical arguments, students are also required to represent previous conclusions on a subject (Stockton, 1995). Thus the design of the students’ research question is also situated amidst a scholarly conversation. Their research statements will reflect this situated knowledge. Topic alone is not enough to define a research problem, or to determine which resources are considered acceptable. Researching for the purpose of completing an academic high school history paper then may be more complicated than we previously thought. The students’ understanding of the research genre may be what drives the search for and selection of relevant information.

The assumption underlying this research is that organized cultural practices and shared cultural understandings can lead to broad expectations—which lead to similar behavior. The task of producing a text in the disciplinary genre may be aided by classification systems that include genre as a non-topical characteristic. My goal is to begin to articulate a theoretical framework that incorporates genre theory and information behavior theory to examine how the structure of the genre may be related to the structure (classification) of items in a retrieval system. An
interdisciplinary approach that integrates classification theory, information seeking behavior, and rhetorical practices may help to characterize effective models in information retrieval. Information system models that index documents to reveal various reasoning and/or writing processes, task components, text features, and disciplinary criteria may increase points of access.
CHAPTER 3

METHODOLOGY

This chapter will discuss the qualitative research methodology and procedures used in this thesis. It will give a detailed description of the research, including the site, the participants, data collection and data analysis. This qualitative case study was designed to answer the following question: What assumptions about language and knowledge are embedded in assignments and how do these relate to how students search for information sources? Qualitative methods such as observation and interviews allow a deeper exploration of a complex phenomenon. New rhetorical genre theory provides the theoretical framework and linguistic pragmatics provides the method of textual analysis.

3.1 Research Questions

The following focus questions are a central part of the analysis of the case study:

1. How does the formal shape of the student text relate to their understanding of the purpose of research? What view of the world and of knowledge is represented?

2. What searching behaviors interact with the students' understanding of the research genre?
3.2 Site and Participants Selected

The research site in this thesis was a university preparatory school with exemplary performance on standardized testing, and university admissions. One group of three students and one teacher were recruited on a voluntary basis. The students were enrolled in a Grade 12 History class and had completed several research papers throughout the year. Two of the participants had also completed two Advanced Placement courses in history, and the third student had completed one AP course in history. The research task analysed in this study was their final paper. The research paper was represented as an individual analytical paper, one that approximated university-level research. The task, as represented by the teacher, was to learn to produce texts written in the disciplinary genre. Students were asked to pick a topic in Middle East history, either given by the teacher, or to come up with an original topic. They were then required to design questions that would have a researchable focus. They were to write a five-page research paper, and were given 4 weeks to complete the task. They were also required to locate their own source texts using computer mediated information systems. They were not given a limit on the number or type of sources that could be used.

Miller (1984) argues that features and regularities of a genre are the results of the rhetorical situation that comprise the purpose of writing, classroom social context, the course materials, instructor, student writers, etc. Students learn about genre in the classroom. The classroom thus has an indirect connection to genre. Analyses of teacher and student talk about writing and research allowed me to create a detailed description of what research writing in high school history entails—how students experience genre ‘rules’. This description was then analyzed in light of the observed searching behaviors of the students. I investigate whether students see their essay writing
as a way to participate in academic communication and to what extent they perceive their writing as a way through which they can engage in academic social discourse. These activities intersect with systems that provide students with access, and the tools of access to resources. Students essay samples were analyzed for typical syntactic and pragmatic features. Preliminary analysis suggests that genre fulfills its cultural role through (1) use of negative affect to index a subjective authorial persona; (2) use of modality to express certain attitudes towards the reader. In all three cases, typical patterns emerge which may contribute to fulfilling important rhetorical, social, and cultural goals, thereby perpetuating and reshaping the collective canon.

3.3 Methods of Data Collection

The object of study is the information behavior observed in students researching and writing an academic school research paper for history class. The object of analysis is the social intercourse—how students view the research genre as a typical style that can be replicated.

3.3.1 Sources of data.

A. The teacher's talk about research papers and interview data were recorded and transcribed

B. Students' interview data on class papers were recorded and transcribed

C. The text of students' papers were analyzed

D. The students' observed search behavior were recorded and transcribed

Teacher

Transcriptions of lessons were examined to answer the question of how history is represented and enacted in the classroom. The task (the research paper) as constructed and
presented by the teacher was analyzed: How the teacher talks about research writing to students, and what expectations are articulated. The second source of data is an interview that lasted approximately 45 minutes. The teacher was asked to talk about the completed history research paper, and to speak about the formal features employed to complete the task.

**Students**

Student data consisted of interviews and recorded searching sessions. The final paper that was produced by the student was analysed for linguistic features, such as devices that report information and transform knowledge. The assumptions that arise out of these patterned genre activities were then used as categories in the analysis of how students interact with an electronic retrieval system. The units of analysis include the kinds of interactions with full text databases, and the Internet.

**3.4 Data Analysis**

The objects explored include the teacher’s talk about writing to the students and how the genre is represented. The teacher’s talk about a term paper was examined for embedded disciplinary assumptions, and vocabulary. Students’ perception of the research genre was also examined: What readings and resources are included by students in their research papers; i.e., packets of information, supplementary reference books, reference Web sites, etc. Text analysis was then used to investigate how students understood and undertook the task of writing from primary and secondary documents. In the analysis, I focus on specific features of a research paper such as citation style (how documents are used, integrated and summarized), identification of the position from which the statement comes, evaluation of established knowledge, and use of discipline specific terms.
Interview: students’ and teacher’s perception of high school research papers.

This is a descriptive phase of inductively analyzing what teachers and students say about their terminology and sense of genres, and how teacher commentary guides students in collecting data, visiting the library, and developing assignments using rhetorical genre theory. On a more specific level, interviews were used to enhance interpretation and explanation of the patterns found in the texts. Two interviews of approximately 30 –45 minutes using seven open-ended questions were conducted by me (See Appendix A). Students were asked to comment as they read through their research papers on features of a history paper, and were prompted using open-ended questions. Students were asked to read and comment on research papers they had written, and the teacher on an essay she had marked in order to discover language users awareness of their activities as readers and writers in a school setting (See Appendix A). Participants commented as they read and reported what came to mind as they read. Some question prompts were used in order to articulate assumptions that speak to the following research questions:

**How does the formal shape of the students' texts relate to their understanding of the purpose of research? What view of the world and of knowledge is represented?**

Interview: students' use of information retrieval systems

A Case Study Approach to a search task was used to describe and analyze an “intact cultural scene” in order to respond to the question of how students/teachers experience ‘genre rules’ when interacting with a typical information retrieval system. Students were interviewed and observed one-on-one. Using a contemporary history research topic, students were asked to navigate electronic information systems. Open-ended question prompts were used to evoke responses on how search results are used to make sense of the topic, identify aspects, and to articulate which sources are relevant to the
task. Respondents were asked to reformulate their queries and use features of the navigation system to increase relevancy and precision. Prompted questions ensured uniform data (See Appendix A). Searching sessions lasted approximately 45 minutes and were recorded three times. Queries were analyzed by how contextual cues in the search results were interpreted in light of the task. This analysis responded to the following research question:

**What searching behaviors interact with the students' understanding of the research genre?**

**Linguistic Pragmatic Analysis**

In this analysis, I focused on specific features of a research paper such as citation style (how documents are used, integrated and summarized), identification of the position from which the statement comes, evaluation of established knowledge, use of discipline specific terms, and use of personal voice (taking an authorial position in relation to other voices). I first examined students' final texts to identify salient patterns, and then compared their inclusion of features across the texts. Three scholarly history papers were also analyzed as a comparative. Next, I observed how students represented important points by declarative statements (i.e., no citation), or by attributing statements to authored sources. In addition, I further identified how students attributed those points by how they represented sources.

I combined a case grammar method for examining subject positions and how actions are represented with a citation analysis in order to identify how history is represented by students and came up with my own coding system. In this coding system (Table One), there are four major categories: reported speech, non-reported speech. The first category is further divided into whether the student substantiates an experience of affect or cognition to the source. Secondly, categories were examined for 'experiencer' statements. The categories of 'affect' and 'cognition'
also have a sub-category of 'institution,' individual, 'force,' or 'self' to distinguish how the events and players of history are represented by the students. I used representative sections from three professional history articles as a comparative (See Appendix C). I then examined and contrasted student and professional scholarly use of verb tense and modality. Documentation practices were then analyzed for attribution of knowledge claims, and citation of historical facts.

After I coded the rest of the research essay protocols, I examined the information behavior of the students comparing how the students' search method intersects with the genre produced by the students using Kuhlthau's Information Search Process model as a comparative.

3.5 Conclusion

Rhetorical genre theory may be used to construct a representation of information use within an educational setting. This study interrogates the conditions under which students are sent to the library to complete research assignments. Three participants completed a history research project in which they designed researchable topics and sought for sources. The students' final essays and essays from the previous term were analyzed in terms of 1) how they reported words from their source texts and 2) how they represented claims to knowledge. Apart from these textual analyses, students' own perceptions of their research writing tasks were also collected through a follow-up interview both before and after they had received their final grade. In addition, students' searching sessions were recorded. What is absent from the research of school library use is how the kinds of knowledge expected from the students, and how the kinds of uses and manipulations that information is to be put through are connected to the access and retrieval of information. Because use is the final stage in the information process, this problem is
approached by examining the assumptions about language, knowledge, and genre that teachers and students bring to research assignments in the school library. This research proposes to examine the contexts of use as projected through the writing of the high school history student. Analyses report the preliminary hypotheses about the language characteristics of historical writing considered good enough to complete the task. These hypotheses may be a guide for further investigation, whereby we may systematize features to form a comprehensive corpus.
CHAPTER 4

RESULTS AND DISCUSSION

This chapter summarizes the findings of the study. The goal of this analysis is to develop techniques that may contribute to a methodology that may eventually provide a way of investigating genre. Analyses report the preliminary hypotheses about the language characteristics of historical writing. These hypotheses may be a guide for further investigation, whereby we may systematize features to form a comprehensive corpus. The goal is to provide a more nuanced picture of genre than ones we currently in use. The system of general education does not provide a forum, or a vocabulary for articulating these differences in genre rules—which are also differences in the methodological tools and the objects and motives of disciplines (Russel & Yanez, 2004). Some features may be more prevalent in one document than in another; as well, there may be other less-frequent features that would nonetheless figure prominently in other instances. These hypotheses about language can be used as a guide to further investigation which may lead to a theoretical integration which, at the same time considers the disciplinary differences and forms a coherent theoretical frame for knowledge organization and information retrieval. This chapter is divided into three sections. The first section will identify and describe the strategies employed by the students in their representation of the ideas and resources found in their essays. This section identifies prominent features across three of the final student papers and three professional papers, and focuses the examination on representative selections within these samples. By examining a few instances of high school history research, we can begin to systematize the features found beyond the sample to a larger study.
The second section will identify and describe the strategies employed by three upper level history students as they search for information to compose a history research paper. This section will also focus on a representative selection within these samples. Finally, the third section will examine whether any connections exist between the student genre and how students search for information. This section provides a description of the range of tasks that students performed in gathering information as well as describing the links between the information seeking process and the student essay genre. Interview data is used to provide an understanding of the theoretical underpinnings of the essay for history class, as well as to explore the beliefs of the history teacher and students regarding the purpose of research. Each section includes an analysis of the relevant responses from the students and teachers and provides a qualitative description of the research paper expectations that students encounter in a particular high school history class. Classroom data from the introduction of the research project and discussion of research statements were largely inaudible and un-useable.

As a large number of students plan to enter university study, an investigation into teachers’ and students’ processes and perceptions in developing research essays using electronic retrieval systems may provide insight into whether models that guide the pedagogical field of practice can provide sufficient intelligence to support a foundation for university education. This research provides a qualitative description of the research paper expectations that students encounter in a particular high school history class.
4.1 Results of Research Question One

This section reports findings and discussion to Research Question One: How does the formal shape of the student text relate to their understanding of the purpose of research? What view of the world and of knowledge is represented? I present the results in two stages. The first stage focuses on observing participants' performance of historical rhetoric by examining how they represent knowledge statements. A professional article is used as a contrastive. In the analysis, I first examined instances of the student genre to identify prominent features, such as citation style (how documents are used, integrated and summarized), identification of the position from which the statement comes, use of modals and verb tense. I then use a professional history article as a comparative. The analysis focuses on representative sections of the samples.

4.1.1 Identification of the position of the statement.

Students included various types of important points in their two papers, ranging from citation to evidentiary statements. I used case grammar to elicit how students represented the history essay genre. Table 4.1 offers examples of the categories used in this analysis.
<table>
<thead>
<tr>
<th>Category</th>
<th>Sub-category</th>
<th>Sub-category</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reported Speech</td>
<td>Affect</td>
<td>Institution</td>
<td>[t]he consequent Arab oil embargo, and the ensuing hostage crisis—shocked many U.S. officials into viewing Islam as a threat to Western interests (FN 9: Pro A).</td>
</tr>
<tr>
<td>Historian</td>
<td>Individual</td>
<td></td>
<td>..</td>
</tr>
<tr>
<td></td>
<td>Force</td>
<td>Events</td>
<td>Events of the following years only sharpened U.S. fears of the power resurgent Islam.</td>
</tr>
<tr>
<td>Category</td>
<td>Sub-category</td>
<td>Sub-category</td>
<td>Example</td>
</tr>
<tr>
<td></td>
<td>Cognition</td>
<td>Institution</td>
<td>The politics of Islam were confused with the politics of Iran, with many Americans unable to imagine relations with an Islamic government in which the United States was not cast in the role of the Great Satan (FN 23: Pro A)</td>
</tr>
<tr>
<td></td>
<td>Individual</td>
<td>Secretary</td>
<td>Secretary of State Warren Christopher said that &quot;Iran is the foremost sponsor of terrorism in the world&quot; (FN24, Pro A)</td>
</tr>
<tr>
<td></td>
<td>Force</td>
<td>The USA was determined to impede Egypt's bid to gain influence in (Pro B)</td>
<td></td>
</tr>
<tr>
<td>Reported Speech</td>
<td>Affect</td>
<td>Institution</td>
<td>Israel, to this very day, has become entangled in sticky political situations and the only way for it to overcome the apparent mistakes from the past is to emerge revitalized and stay true to the countries (sic)policies (FN 14 –Student A)</td>
</tr>
<tr>
<td>Student</td>
<td>Individual</td>
<td>Hoover</td>
<td>Hoover was rather impervious to the tragic situation which surrounded his nation (Student B)</td>
</tr>
<tr>
<td></td>
<td>Force</td>
<td></td>
<td>..</td>
</tr>
<tr>
<td></td>
<td>Cognition</td>
<td>Institution</td>
<td>..</td>
</tr>
<tr>
<td></td>
<td>Individual</td>
<td>Former Secretary of State Henry Kissinger said of the Vietnam War that for its success, it would have &quot;required us to emphasize the national interest rather than abstract principles…(FN 5: Student B)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Force</td>
<td>Keynesian</td>
<td>Keynesian Economics (sic) had outlined measures that could be taken in order to rebuild the troubled country (Student A)</td>
</tr>
</tbody>
</table>

Table 4.1: Representation of Ideas and Resources
Traditional case grammar is about grammatical roles such as subject, verb, and object. New case grammar is about how words are used in context. Case grammar emphasizes the fact that no matter what syntactic structures one chooses to use to talk about an action, the actual roles of the participants (people, objects, forces, and locations) in that action remain unchanged. The filling of these roles correlates with a linguistic encoding of the world. Students may represent institutions, economic forces, or certain people as driving historical change, for example. Some features found to be relevant in the student samples are a subjective authorial position and a prominence of affective statements (see Diagram 4.1).

**Diagram 4.1 Universalizing Conception of Knowledge**

Results show that the student samples display a dominant tendency towards 'self' as the authority who experiences subjective knowledge, or towards extremely generalized participants (See
Even though the subject position is buried within the syntactic structure, nevertheless an experiencer must exist. The author is the tacit experiencer of emotion. Student A’s following sentences established the pattern of a generalized experiencer of negative affect. So, for example, she begins her essay with:

"If only people could apply the lessons learnt in pre-school to everyday life experiences, we could live in a significantly more pleasant and peaceful world" (Student A).

In this sentence construction there is a subject position who experiences negative affect (presumably unpleasant and stressful): [me]. The subjective emotions of agitation and distress is
attributed to a common source—in this example, 'people' not applying the lessons learned in pre-
school. The 'world' is the source of this experience. The student's second sentence is also a
statement of negative affect, without attributing a specific experiencer:

**Fundamental lessons designed to guide us through life are so often
disregarded, as the unforgiving human nature inevitably takes over any
degree of rational [sic] (Student A).**

This sentence is also an experiencer statement of negative affect: [I] experience this lack of
compassion and kindness in human nature, as well as the lack of reasonableness. Feelings are
projected onto a generalized subject which could be construed as an indefinite "we." The reader
seems to be asked to identify with this experiencer, perhaps signaling the universalizing of
knowledge from the subject position. And in the student's third sentence, there is also negative
affect, albeit in a slightly different form:

**The basic concept of settlement and sharing was lacking throughout the
Israeli and Palestine land disputes (Student A).**

Again, there is an agentless experience, this time, in terms of a lack: [someone] experiences a
lack of generosity. There is a projected universal subject who experiences this negative affect—
which could be termed selfishness. The student sample continues this pattern throughout the text.
The performance of historical rhetoric by the students reveals the 'student as authority'—as
centre of knowledge.
In contrast, the third sentence of the scholar's introduction attributes the feelings on agitation and distress to definite experiencers--"Palestinian Gazas"--and the source of this experience is "the disengagement." (See Diagram 4.3)

Diagram 4.3 Contrastive Subject Positions

Contrastive

<table>
<thead>
<tr>
<th>The basic concept of settlement and sharing was lacking throughout the Israeli and Palestine land disputes</th>
<th>It has been acknowledged, however, that since the disengagement Palestinian Gazas have experienced greater economic and human insecurity.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjective experience of lack of generosity or selfishness.</td>
<td>The affective emotions are attributed to the actual players in the scene.</td>
</tr>
</tbody>
</table>

In the scholarly source, the affective emotions are attributed to the actual players in the scene, and the statement attributed to other scholars. In comparison to the student essay, in the scholarly form of affective language, the fifth and seventh sentences exhibit definite sources of negative affect, but with experiencers who are players in the event. Statements of affect in the scholarly
writing sample are couched within an establishment of the chronology, events, and players of history.

Yet tension between the Palestinian 'victors' was already palpable.
Unsettled and increasingly bitter rivalries between Fatah and Hamas erupted amid the continuing breakdown of law and order, the resurgence of clan and family disputes, as well as Fatah's defeat to Hamas at the ballot box (Pro C).

The experiencer statements in the scholarly source reference state, nation or the concept of independence. It is Fatah and Hamas who experience this feeling of bitterness, and this experience is nominalized as an event or thing (unsettled and bitter rivalries). This feature reaffirms Halliday and Martin's conclusions (1993) that historians (and students who are ‘doing history’) nominalize events as participants and verbalize the logical relation between them. The agent has a causal relation to its medium. This formal feature buries reasoning but also organizes texts. This feature also confirms Halliday's finding that students who are not doing history organize their texts in terms of themselves. Student A goes on to speak of how teenagers resonate with the word 'terrorism.' This feature may relate to how the information retrieval system intersects with the student essay genre. Specialized written knowledge is used to perform different goals. As the student navigated a path through an electronic retrieval system, she was guided by the constraints and goals of her own task representation—the sense of what and how she should write. This task representation, the web of evidentiary and conceptual tools, intersects with the patterned activities that went into creating the classification system.

Students looked for information they were already familiar with, that they had learned in class or from the media. For example, that the King George Hotel was bombed in 1938, or that
George Bush refuses to negotiate with terrorists. The genre features of their writing derived from their information-seeking process, yet the process itself was not acknowledged in the classroom. The students evaluated sources for pertinence by reading through them as they were searching, and when they found a sentence they thought they could use, they plucked it out of its original context, whether news reporting or biography, and cited it in their papers without considering the situation of rhetorical production in the original context. Thus, there was also de-contextualization from the surrounding text. Topic reformulation existed only on the level of falling back to the initial topic search. Topic reformulation was not based on a recursive research process, but the process of accessing information itself. The student found only rhetorically unrelated genres and thus her fallback was to pluck factoids (universally known facts that were "newsworthy" and did not necessarily require citation), and to simplify her evidentiary statements to emotional responses that did not engage the sources found.

The scholar's use of affective language in one case also attributes the experience of negative affect (the lack of hope) to an agentless experiencer. Though in this case, the implied experiencer is the Palestinian people, not the author, who experience the lack of confidence in the government.

Thus, in the months that followed the Israeli disengagement from Gaza and the Palestinian legislative elections, a spiraling crisis of confidence in the governance of the PA, and the international boycott of its institutions because of Hamas control, seriously undermined its already feeble structure (Pro C).

The statement of affect for the scholar again appears amidst factual events within a specific time frame. In contrast, the student's statement of affect is situated in a generalized time frame and
references subjective and universalized statements. This language feature confirms Stockton's analysis that the central function of academic historical discourse is the "establishment of an autonomous subject of meaning who is always speaking from outside history about a distant and objectified past" (Stockton, 1995, p1). Students in this study were unaware of the importance of this voice. They were aware that they needed to avoid "I believe…" statements, yet this personal voice/authorial presence is still dominant in their syntax. The teacher herself failed to articulate for students the distinctive nature of their genre or the function of historical discourse generally.

The student's conception of 'opinion' as argument failed to engage with the resources. Student A took statements from a document that was originally written for another purpose (news), and generalized her emotions and thoughts in terms of a universal subject. There was a de-contextualization from the situation. While the teacher stated that news sources were necessary so that students were accessing "predigested" content that put a complex topic into context for them; in fact, the use of news sources elided the context from which the student was writing. The course provided a range of entry points into the genre system; however, the personal "self" as centre and author of knowledge did not match well with the motivations of the research process. Part of the problem seemed to be the assignment: students were basically asked to respond to a document-based question, but had not received the documents--they had to find them, and synthesize them in a way appropriate to history. These students did not represent previous conclusions on the subject, and did not in fact survey the "lay of the land" as the teacher suggested.

The focus of the student A's research statement was motivated by a particular, but typical, purpose; that is, the statement was situated in the goals and objectives of the course of study, but
because the library erased that situation the resulting retrieval of information was misleading.

There was no fusion between the language and the situation—what motivated the writing in the first place. Representing a historian might have provided an entry point into the discussion. She would then have a model of historical causation that could be used to appropriately discuss the topic. For example, ideological or religious difference, solidarity arising from the emerging of group consciousness among one or more social groups based on such distinctions as class, race, ethnicity or religion, etc. Her research statements reflected situated knowledge— a community of shared goals, values and assumption where knowledge and thought are mobilized and organized purposely in situations (Huckin & Berkenkotter, 1993). The students in this study already had in mind an appropriate historical thesis statement, and were looking for pertinent sources. Student A abandoned her rhetorical purpose to complicate the idea of political legitimacy by analyzing terrorist activities because she couldn't find information that would speak to this purpose. A school ‘report’ is considered arhetorical (Freedman & Medway, 1994) in that content is often ‘transferred’ from one medium to another and students are not expected to take the goals and objectives of the disciplines. Others see exposition and argument as the rhetorical means of ‘performing school literacy.’ Rhetorical genre theory questions the authenticity of students writing in this genre, and sees these categories as problematic. Students in this study had a generic conception of writing, and failed to distinguish writing in different disciplines.

4.1.2 Verb tense.

Students say that history is about events in the past, yet the application of case grammar analysis did not elicit this. The student sample shifts between past and present tense. Scholarly use of verb tense in history reveals a definite pattern of simple past tense in laying out the
chronology. Towards the end of the introductory recount (context setting), present perfect emerges to characterize the scholarly discussion on the topic, signaling the proximity of the current research to other voices on the discussion.

In the summer of 2005, Israel embarked on a process of disengagement from the Gaza Strip. After 38 years of military occupation and illegal settlement the government of Israel ordered its settlers and soldiers to withdraw (Pro C).

Thus, this article will put forward an analysis of Hamas in evolution as an organisation that has historically balanced a commitment to armed struggle with political pragmatism.\(^5\) but now faces and must meet a demand that it abandon armed struggle in return for power within the structure of the PA (Pro C).

The difference is that the scholar confines her chronology to a clearly defined space and political context, while the student introduces a new time frame. Student A's generalized representation of chronology/events is at variance with specificity of the events that the scholar represents. She used past tense to suggest a beginning of the chronology when extremist groups "were catalyzed" in the Middle East, but the next sentence slips back into present tense as the students refers to the events of Sept. 11th, and how teenagers "resonate" with the word 'terrorism.' When the student did attribute a definite experiencer, 'American people" she used a time marker of a specific event.

With the case of September 11th, the actions taken by the terrorists can fall under the umbrella of explicit terrorism designed on this particular scenario to instigate a sense of fear in the American people (Student A).

The student continues the pattern of self as experiencer of negative affect. [She] is surprised now at learning about Israel.

\textbf{It} [the hesitancy of individuals to use the word terrorist] \textbf{furthermore frames} Israel as being hypocritical as they allegedly do not condone terrorism yet
they are surprisingly ignorant that it has and continues to take place in there [sic] back yard.

As the world hears of massive numbers of civilian deaths in any part of the world it is hard not to think of the kind of person it takes to engage in this kind of activity (Student A).

The word "surprisingly" gives an immediacy to the emphasis, and the present tense continues this sense of immediacy. Not only does the time frame shift, but so does the point of reference. Again the experiencer of this cognitive or affective act is universalized as herself. (See Diagram 4.4)

Diagram 4.4 Time Frame and Generalized Affect

Occasional dates are established with past tense and time markers, such as when Irgun was operating and the establishment of the date of bombing of the King David Hotel. The use of
specific dates sounds very much like the historical excerpt. But mainly student A's overall effect is achieved through present tense. Present tense mostly co-occurs in contexts with generalized experiencers. The scholarly paper, in contrast, uses time markers and simple past tense to establish a very specific time frame throughout the first paragraphs. The way the scholar situates herself in relation to other work, ideas, and issues is marked grammatically through verb tense. The scholar also maintains a narrowly consistent picture of the past through past tense, uses present tense to signal her own critical stance, and present perfect to represent the scholarly discussion. Present perfect is again used when summoning the status of knowledge:

**Governance, the expression of political powers internally as well as externally, the monopoly of force, and law and order have dominated debate about the role and function of Hamas as a permanent participant in the Palestinian political arena (Pro C).**

The use of present perfect, together with the reporting expression, suggests that scholarship on this issue is recent.

Because of student's familiarity with newspaper and reference sources, they bypassed more scholarly sources. Again, knowledge is seen as "out there" and there is no "why" to the situation. There was a de-contextualization from the situation. This is particularly a problem when doing historical research paper writing. For example, news reports used as source texts pulled students towards reproducing a journalistic style where statements were almost entirely stripped of their qualifications, citations, and history of heated dispute. The features present in their essays may have reflected the motivations of news media—to entertain or to inform. We learn from genres: they teach us what to do, to want to do it, to think it is proper to do it. Different genres, even in neighbouring systems, do not have to be wholly compatible; there may be gaps, shortfalls, and
presumptions. Accessing information is about perception: genres, codes, conventions and forms are vital to perception and interpretation. It is the subject specialist, not the librarian, who is qualified in the thought processes, aims, standards, and strategies of the discipline-based activity (Meola, 2002). We use systems for social purposes. Students using these electronic retrieval systems retrieved a myriad of document genres that were relatively undifferentiated in the results display as to their purpose or function. Genre categorization may help students orient and organize individual perceptions, thought, and behavior. As Swales (1990, pp. 49-52) points out, following Wittgenstein, we recognize and categorize genres using "family resemblances," a loose and shifting constellation formal features rather than strict definitional criteria. Students must make sense of how the classification system intersects with the genre activities of the classroom when searching for information to be included in their papers. The difficulty for students is in recognizing how and why information is constructed. The genre of the sources found pulls the students towards writing in a certain style. One genre may have predisposed the participants to look at information one way, while the accompanying genre may have pulled the participants towards another perspective.

Computer-mediated information systems, though, may be over-determining: they may have directed students to certain types of resources. For instance, the databases available to high school students primarily contain news, book reviews and reference sources. Without abstract terms and language (i.e., state, nation, etc.), the student cannot make generalizations about human experience which has been drawn together and interpreted in these terms (Halliday, 1991). Language that is abstract poses a problem for the student who electronic systems. The linguistic regularities that reveal subjectivizing of knowledge may be related to how the
characteristics of information storage systems (provisions for using keywords, abstracts, and subject classification) intersects with the history essay genre. The classification system with its topical categorizations may reinforce the simple notion of historical content as known facts about events, and of historical texts as truthful objective accounts. Students must access sources that are written in a certain genre. They are also required to construct a particular genre out of these different resources. On one hand, the document genres retrieved reflected a different situation, perhaps writing to inform or persuade the public, or writing to persuade other experts. On the other hand, the high school students’ situation and the genre definition are inadequately defined. The students writing these research papers did not necessarily reflect on why people write information and for whom, nor did they discriminate amongst sources based on their underlying motivations.

4.1.3 Modality.

Modals are part of a system for expressing an idea about the status of action or knowledge or attribute. The scholarly sample uses only one dynamic modal to express the future of the analysis to come. The modalizing effect is to add an element of uncertainty—the assessment has not yet been achieved.

Assessing whether Hamas is up to the challenge of power through formal structures of governance can be achieved by analysing its own internal structures of power, its performance to date in local democratic politics and the reactions of other major actors in this area (Pro C).

The writer uses present perfect to tell what it is she is reacting to—that Hamas has "historically balanced a commitment to armed struggle,"— and uses the present tense to signal her critical
stance that Hamas "now faces and must meet a demand…" The scholar also uses one example of a deontic modal "must" expressing Hamas' obligation for political action in the world. The model of historical causation is clear—power and political interests and how they act. Student A, on the other hand, uses this similar feature of forecasting the argument, but with striking contrasts.

Through an analysis of key individuals affiliated with this organization it is without a doubt that this group is terroristic.

It is only through an assessment of the specific actions of the Irgun that it can be appropriately determined whether or not they could be affiliated and called a terrorist group (Student A).

The modal adjuncts "only," 'appropriately" and "without a doubt' removes the sense of expectation that an analysis will be unfolding. Instead, the status of the research as "truth"—as pre-existing truth which the student has 'found' and then proves with evidence is established. This feature relates to the take-a-stand form of her essay. Modals are used to enforce her own contention. She established a categorical definition of terrorism and then provided examples which serve to establish the basis of truth in her initial category. Knowledge is represented as universal, and knowledgeable speakers are represented as 'self.' Qualification and concession were not apparent.

Student A articulated the purpose of research as having a thesis statement, an argument, and topics that are being argued, as well as being a general discussion. Her conception is that a research essay is like an oral debate, with facts used to 'back up her opinion" and opposing views acknowledged only in the sense that the student would "use his ideas to back it into my argument." Student B, as well, approaches her own contention with "this seems," but then comes down heavily on her side:
[The Bush Administration passed a bill to extend a $9 billion loan guarantee. Though this seems to be a kind gesture to the Israelis, it promotes the notion that the US is partial to Israel, deeming it legitimate and worthy enough for economic assistance (Student B).

With a position on the Quartet for Middle East peace, it appears the United States is in favour and support of the dual creation of the state [sic] of Palestine and Israel. Alas, this seems to be merely a façade (Student B).

The citation, or lack thereof, of sources is used to help the student sound "personally authoritative." News sources bear a complex relationship to the student essay genre. Research is about personal opinion. The take-a-stand and be decisive format may be mismatched with the purpose of constructing a historical research paper. Writing from inside a discipline requires an understanding of the assumptions of knowledge within resources.

4.1.4 Documentation.

Documentation includes intricate systems for incorporating the speech (or text) of others into one's own--this could include footnotes, endnotes, lists of works cited. The systems that direct writers to quote a lot, or not much; or quote directly, or to paraphrase; or to put other writers' names in the reporting sentences, or to put them in parentheses; or even to leave the other speakers unidentified are intricate and point towards disciplinary expectation. Salient patterns that emerged were shown in how citations were introduced. For example: "The United Nations has yet to firmly allocate a definition of terrorism, however, a resolutions has proposed the following..." is an example of an institution as agent. Footnotes are used to show use of evidence. Footnoting included quotes, figures and statistics, summarized factual material, or another author’s opinion or argument. For example:
"Israel, to this very day, has become entangled in sticky political situations and the only way for it to overcome the apparent mistakes from the past is to emerge revitalized and stay true to the countries (sic) policies" (FN 14, Student A).

This is someone's opinion and is thus attributed, but the surrounding text does not reveal the status of this knowledge claim. This quote is stranded from the context in which it originally appeared. The speaker remains un-named. The citation seems to cultivate a stance of certainty and authority; however, the student attributes a citation of a general opinion to a source, whereas the scholar uses citation to contextualize statements as coming from verifiable research methods. For example, scholar B also uses a footnoted reference, with no introduction of speakers, yet with a contrasting purpose—to establish a context for the claim being made.

By holding 52 Americans hostage for 444 days, Khomeini's Iran inflicted daily humiliation on the United States, eliciting an intense degree of hostility and a deep sense of powerlessness that Americans had not been used to. Iran became a national obsession15 (FN 15, Pro B).

It could appear that Iran being a national obsession for Americans is common knowledge, available to anyone, but the scholar uses citation to reveal the cognitive terrain which led to the statement being produced—the status of the knowledge claim as knowledge. When the scholar attributes an affective experience with a generally known fact, there is no citation:

Accustomed to seeing their country as the most democratic and generous, Americans were shocked to hear Ayatollah Khomeini calling it 'the Great Satan (Pro B).

In contrast, when the student reports a generally known fact, she cites it.
The student cites factoids of history—things that she already knows, and can be looked up in order to provide a citation. For example, that people now face baggage restrictions on airplanes or that George Bush won't negotiate with terrorists. As Limberg & Alexandersson (2003) found, this study confirms that the research genre, as constructed in this particular classroom, to be fact-finding. However, this fact-finding is isolated from the classroom or historical context. The students did not simply describe what happened in the past, providing a comprehensive chronological narrative, they used these details in a specific way.

Scholar B uses paragraphs to sum up events in history, and the footnotes generally come at the end of the paragraph. These paragraphs show the consistent use of linear time and past tense. Students' representation of chronology in this study was decontextualized, they used 'factoids'-- where statements of chronology were plucked from a source that had a different purpose and used as isolated and cited factual material. The teacher didn’t react to citations of factoids such as baggage restrictions on airplanes, but does react to a lack of citation in one instance.

Although the Quartet is not a generally known fact, the use of a footnote here could have shown that this is a consensual problem; in other words, that there are other people who have
determined the importance of this problem. The problem for the student is not whether or not citations are of generally known facts, though the teacher reacts to the statement as if this were the case:

"Not a well-known term, so explain this brokerage group."

The problem is that the student elides differences in voices in an effort to appear authoritative. Citation is used in mixed contexts: to appear authoritative by associating her thoughts or opinions with someone with greater stature. Yet when there is truly a case for associating her statement with other more authoritative voices in order to establish a communal knowledge stance, the student does not cite.

Surveying the historians' footnotes one can read the system of making meaning as consensual. Statements are cited because they leave a trace of their research-value; statements were produced in a particular context. When scholars introduce cited speech, they establish a context. Their statements will justify the significance of the reported speech in its original context. Students, though, avoid plagiarism by attributing factoids as a demonstration of independent work. They did not cite important ideas, perhaps because the system of documentation in an essay for history class is not a robust situation. The students in this study lacked the necessary skills to contextualize the content of history within the themes and issues deemed important by the teacher and emphasized by the course objectives; i.e., to understand how differing perceptions of people, places, and resources have affected events and conditions in the past through competition and conflict; to develop an awareness of how religious and philosophical ideas have been powerful forces for defending military aggression throughout
history. Disciplinary expectation demands specific patterns of citation. The classroom demands that the student not plagiarize and yet remain authoritative. In the interviews students consistently remarked that ideas learned in class are not cited or attributed, yet in contradiction students also remarked that they searched for information that they already knew about in order to have citations. The teacher also stated that she checked citations for plagiarism, and not necessarily for the quality or kind of source. This may point towards pedagogical issues in the teaching of history, and may confirm the findings of the Royal BC Commission on Education that there is a disjunction between teaching content as facts, and teaching methods which fail to connect the conclusions of the discipline to the kinds of evidence and reasoning that established them. An examination of political doctrines, creeds or world views provides a model of historical causation. The course content detailed themes of social tension, conflict and group solidarity arising from social groups, yet the library elided this context. These abstractions are the platform by which different source materials could have been brought into conversation with one another.

Scholars attribute knowledge statements in a way that takes into account the rhetorical act of producing knowledge by identifying the position from which the statement came. For example, the significance of the original research context was established, or the overall argument or knowledge contribution characterized. The historian is not simply interested in subject matter, but in the arguments, criticisms, and knowledge contributions put forth in producing this information. When scholars introduce cited speech, they establish a common scholarly context. Their statements justify the significance of the reported speech in its original context of production. For example, ‘writing from a Marxist perspective…’; ‘the overall point of the book…’; ‘Carson seeks to establish that….’ The motives of the
rhetorical act shape the formal discursive patterns. Scholars are “overtly oppositional but implicitly collaborative” (Walvoord & McCarthy, 1990). In other words, there is a semiotics of citation—formal features that can be analyzed for typical social motives. The original audience was ‘other scholars,’ not the general public and the particular rhetorical act shapes the formal discursive patterns.

Research papers demand the use of sources. A historian writing a research paper constructs knowledge through the interpretation of evidence from authored sources, and uses the disciplinary genre to transform disparate pieces of information into a coherent genre (Russell & Yanez, 2004). Rosenwasser and Jill Stephen point out in *Writing Analytically* that using sources is like engaging in a conversation, for differing views on a topic are represented by the sources (Rosenwasser & Stephen 1999, p.138-39). For example, core researchers whether in or out of academia use highly specialized research and theory articles for their interactions amongst themselves. When a scholar writes a scholarly book or article, she may imagine herself speaking to a room filled with the past and present experts on her topic. She writes as though she is speaking to them, taking into account their work and building her new arguments on the basis of past work and/or as a challenge to past work. Summary is an essential feature of inquiry/research genres. She must acknowledge the work of those who have helped her reach her conclusions, and she must defend her conclusions that contradict the work of others. By identifying the status of knowledge in an area, a researcher establishes herself as part of a knowledge-making community, one that takes on consensual problems.
The recurring features of citation reveal the ways in which the research genre is conceptualized by the student. On the surface the student uses similar features of documentation as the scholar, but the situational context revealed a very different purpose for use. The pragmatic analysis reveals a strong form/function profile—use of first person, (pseudo) quotation—engaging 'institutional' purposes, and the packaging of entities tailored for a journalistic scene. The players of history are represented in a certain way by scholars. Scholar B refers to particular "administrations" and "officials." -- naming them directly if they occupy a senior position in administration. Those officials who are not widely known are not named:

As one United States official noted, "the Iranian experience extremely conditioned US thinking about the violent anti-American nature of fundamental Islam" (Scholar B).

Student B uses this feature in a different way: she names "Harvard Associate Director on Humanitarian Policy and Conflict Research Mohamed Mohamedou" in a cited statement. This appears to be a journalistic technique, pruning away the context of the utterance in order to appear neutral. The use of news documentary/reference source analysis does not fulfill the requirements of the discipline. In an effort to appear authoritative, the student names an expert in the introducing clause.

Discourse defines the topic: what is worth knowing about, and how the topic can be meaningfully talked about and reasoned about. While there are generic features of all writing, discipline-specific features respond to shared understandings. The research paper is an artifact of the entire linguistic consciousness of the classroom bearing residual markings of that dialogue (specific disciplinary knowledge, depth of reasoning and creative/extensive use of resources). As
Giltrow concluded (2001), students may be able to establish a self amidst the words of others. An 'opinion' that is located in source texts may appear to be in the public domain, up for grabs. While not all reported words belonging to someone else belong in quotation marks, students flattened the differences between their voice and their source's in an effort to appear authoritative. When students cited information and ideas, they represented language that was intended for a different cultural arena. Scholars use reporting expressions, documentation, and characterization of the source to help readers evaluate reported statements. Statements leave traces of their sources and their status as knowledge. The goals of avoiding plagiarism by having an opinion may influence, not only the patterns of citation and how historical knowledge is constructed by students, but their information behavior as well. The relevance of the sources to the task is the accumulation of all the patterned activities the student has brought to bear in creation of the genre (such as patterns of citation, evaluation of stances and perspectives, and/or creating a researchable focus).

4.1.5 Conclusion

Results show that if we compare sentences as constructed by students writing history papers, and by scholars, we, in the former find many more instances of statements of negative affect, with personal or tacit subject experiencers of these emotives, and with use of immediate or present tense, while the typical form of the scholarly sentences is that of factual projections, some use of affective forms within a specifically historical/political context, and consistent use of past tense. The performance of historical rhetoric by the students reveals the 'student as authority'—as centre of knowledge—a role which is re-enforced by the teacher in giving them A's. This role has implications for students as seekers of information. One aspect of the situation
is disciplinary expectation. These students had all taken AP courses in history; however, the
disciplinary situation isn't relevant here because what was found is that they are not producing
history papers. Computer-mediated information systems not only obfuscate these distinctions,
they may point students to certain kinds of resources. Students’ familiarity with a genre also
conditioned their selection in this study with news and biographical sources figuring
prominently.

The students in this study have a generic conception of writing "to inform" or "to entertain."
For example, student A speaks of writing to herself as the audience, or writing a general
discussion. This is journalistic—to make it newsworthy. The situation might be related to how
they characterize the players of history. These students reify "the Americans" constantly as
acting with a set purpose. For example, Student B writing of 'super power alignment'
decontextualizes sources so that statements fall under the umbrella, America vs. the PLO—
which seems to make the student appear neutral by pitting opposites against each other. Student
A pits Israelis against Palestinians. A historian, on the other hand, characterizes nations as
groups working collectively and engaged in power dynamics—this may include the general
public, or state officials. The government is involved in economic/power relations. These
concepts are used to strategically shape and interpret texts and are essential to a definition of the
research process. The social action of the student essay genre appears to be a demonstration of
independent research, along with the take-a-stand stance of the personal essay.

4.2 Results for Research Question Two

This section reports findings to Research Question Two: What searching behaviors
interact with the students' understanding of the research genre? I present the results in two steps. The first step focuses on observing participants' performance as they navigate through computer mediated information systems using keywords. The second step focuses on how the students describe the process of searching for information as they work through the system. I used the Information Search Process model as a basis for comparison. One representative sample was chosen for analysis.

4.2.1 Information profile (See Appendix B)

The Information Process model states that the student begins with initial topic definition and, through exploration, narrows the topic down to a researchable focus. The process of historical research is said to parallel the process of developing a thesis from a topic; historical research begins with a bibliographic survey of general secondary sources and moves toward more focused secondary sources. Students are required to re-categorize points from historical sources, and perhaps locate additional primary source material.

Preparing for Research

The students' observed behavior revealed a combination of browsing, keyword searching and scanning titles or categories. Student A’s Research Question began with a specific focus:

The question I'm asking is whether or not the Irgun should be considered a terrorist group, and I've decided that YES, they should because of the attacks they have committed and the people involved.....so I am looking for information about the Irgun and the kinds of terrorist activities they were involved in and also information about Menachem Begin and evaluating whether they should've been allowed to become a political party.
The key words used in the statement do not seem directly related to the specific question (political legitimacy): so the student researching the terrorist activities of the Irgun simply searched "Irgun" AND "terrorist" in a full text system. The student then scanned the articles for information. In short there is not much of an advantage, according to the student, in using the computerized system as opposed to going to the shelf and scanning books:

Well there were books specifically on the Irgun, so it wasn't necessarily a whole account of Middle East terrorism."

She understood that to use a database, she had to make sure her keywords were specific enough. She had little trouble with this. The student said that she was narrowing/focusing using keywords "Irgun and terrorism." After her search for "Israel" and "terrorism" returned a thousand results about attacks against Israel, she changed her keywords very quickly. She never really changed her focus based on information found. "Irgun" and "terrorism" retrieved a very small results list. The Information Process describes students as discovering a range of likely sources, but the student found articles relating to the entirety of Middle East terrorism, even though she had begun with a narrowed research focus. Even though the results display and categories browsed contained alternate words (i.e., "Zionist" terrorists or "Jewish" terrorists), she did not change her keywords, likely because the sources initially retrieved were not what she was looking for. There is a mismatch between how sources are described in the information systems and the task the student faces.

Exploring and Identifying

The student knew something already about the formation of the state of Israel. From her textbooks and class lectures, she had decided that Israel's historic political roots were based in
terrorism. According to the teacher:

"students do some research then come up with questions...they get the lay of the land first. Once all the information has been sorted/evaluated for points of view then the student writes the thesis....their first conclusion will become their new introduction..."

An undergraduate history student would be looking to represent an argument by an historian—and then look at the kinds of evidence the historian used—analyzing the historian's argument by reworking the evidence, adding new evidence, and perhaps examples from history. This student had an idea about political legitimacy, but she couldn’t quite nail down resources that spoke to this abstract concept. She would probably have needed resources that discuss the extent and nature of terrorism in achieving political ends; instead she looked for factoids/data to “back up” her initial assertion. She was unable to see how other topics were related to the information she was searching for.

Language that is abstract poses a problem for the student who uses electronic systems. The library constructs a context with its information storage characteristics. The classroom constructs a context with its genre characteristics-- linguistic/pragmatic features and patterns. These contexts intersect with each other.

“I found a good article about terrorism and American response to countries that support terrorism....on the sidebar I'm looking for a topic that might apply to my essay....I'm looking at a section that has American policy response to international terrorism but it doesn't seem to be very descriptive” (Student A).

Student A had initially retrieved a source that investigated the differences between secular terrorist activities in post-colonial times and religious terrorism in contemporary times, but didn't
recognize it. Students in this study did not use cross-references, or adjacent subject terms (catalogue like features for narrowing topics). Instead, she chose a book that discussed American Foreign Policy towards terrorism. She browsed this e-book: looked at the index, but not the table of contents, preface, or introduction. She was unable to ascertain the motivations of the book and whether relevant information would be found, and spent a great deal of her searching time using the index to find isolated mentions of Irgun. She had made up a series of questions that she would answer in her paper: the terrorist activities that the Irgun were involved in, and who specifically was involved. She spent an hour of her searching time looking for information on the Irgun in the index of an electronic book discussing International Relations Research. If she had read the introduction instead of going to the index, she would have learned that the rhetorical purpose was narrowly focused on international policy research (specialized language such as 'deterrence' came up in the introduction). Israel might be one small example in context of an overall argument, and may be relevant for a class on political science; however, there was a de-contextualization from this situation. The student would have needed better concepts; such as, "international response" AND violence AND conflict. Although these are not difficult words, conceptually it requires the student to practice abstract thinking. This inability (or lack of training) of the students to think abstractly combined with the topical categorizations of the information systems led to searching behaviour which can be described as "plucking." Students in the study evaluated sources for pertinence by reading through them as they were searching, and when they found a sentence they thought they could use, they plucked it out of its original context (whether news reporting or biography), and cited it in their papers without discussing the situation of rhetorical production in the original context. Students in this study did not begin research with a general bibliographic survey. They did not represent chronology; for example,
the League of Nations’ territorial mandates in Middle East and the connection with the Irgun. In their first stage, they looked for general background information to include in the essay as evidentiary statements. While not discounting the importance of narrowing a topic, one of the problems with this source-driven approach is that students may come to the library with a research statement, not with a general topic. Although the Information Process described above would have the student gather background information in order to "set the scene" for her analysis, student A bypassed the representation of background (in her essay, she merely states that the Irgun was led by a man by the name of Menachem Begin), instead her representation of background derived from information that formed part of her data set to prove categorically that the Irgun were involved in terrorist activities. She didn't use background to represent the context that King David Hotel was bombed and Britain pulled out, but instead used this data to back up her categorical assertion that the Irgun was a terrorist organization because these events and instances happened.

**Accessing Resources**

The information storage characteristics and the process of searching itself led the student to imagine an ideal essay type, which in turn further influenced their information behavior. The coping mechanisms of high school students may in fact be damaging to their conception of genre and knowledge. Thus while the Information Search Process model claims research to be inquiry-driven, it may be that students' coping mechanisms actually drive the research process. So, for example, scholar B uses paragraphs to sum up events in history, and the footnotes generally come at the end of paragraphs. These paragraphs show the consistent use of linear time and past tense. The student’s lack of specific time reference may be related to the navigation of electronic
systems. She retrieved information that was peripherally related, because she could not track down the information for her research statement. Her original purpose to complicate the idea of political legitimacy was abandoned.

I'm looking for more terrorist attacks that I've heard of...like the attack on the King David Hotel.

She can cite this background fact from just about any source she retrieved that discussed Menachem Begin's history, such as news sources or biography. Importantly, the student has found information that she already knew about and again this is a fact which she can cite from nearly any source regardless of context. She eventually cited a biographical source for this fact, but her summary of the event is largely copied/structured from this source.

The student's first stage/strategy was to look for general background info to include in her essay—this made up the bulk of the citation. For example, according to Student B:

“I mention what political legitimacy is and how it’s essential to having a legitimate state, so a lot of that I already had from my Comparative Government class so it was a lot of remembered information. I found it really hard to search stuff up, so I went with what I already knew and hoped that the article I had would have some more information. For one of them I knew that the US had labeled Hamas a terrorist organization…” (Student B).

Historians, in contrast, determine the importance of certain problems over others, and the history student is expected to 'rework' existing knowledge. Results show that students' did not reformulate their research questions through the process, and that the process itself of finding background information and narrowing to more specific background information led the students to imagine and reproduce an "ideal essay type" based on this experience. The student's information profile is one of topical keyword searching and eclectic browsing. Again, the genre features of their writing derive from their information-seeking process, yet this process itself is
not acknowledged in the classroom. It is possible that students searching for information may be
driven by the genre requirements of the research statement, which reflects expectations of the
particular course of study, and that the subsequent processes may be more linear than recursive.
Individuals are motivated to seek information to satisfy their needs (Wilson, 2005). These
findings raise the question whether the iterative model of the information search process
describes the process of constructing knowledge in a high school academic research paradigm, or
is adequate in providing coaching and direct feedback.

**Exploring, Identifying, Gathering**

In order to properly represent chronology, the student would have had to take into
consideration how ideas, proposals, terms and quotations are embedded in an intellectual
context. Most people rely on topic matches when evaluating whether or not a source is pertinent.
Though the students seemed to want information on 'political legitimacy' and how international
perception has a role in this, they couldn’t find sources that spoke to the issue.

"I'm hoping to find American's policy to terrorism and how they look at
Israel" (Student A).

Topic-based matches revealed an incredibly diversified set of genres that did not support her relevant
decision tasks—a task which is based on the problem defined as important in her history class.

“so far I've found the information to be quite factual from my knowledge
and it looks at information objectively which gives me ideas about angles I
can possibly take on my paper....this article is about what the Irgun were
doing...what actions led up to the actual bombing of the hotel, and how
their actions affected people's perceptions of that group” (Student A).
She broke her essay into sub-topics: the search process assumes that she will repeat some of the searching behaviors. But the information she represented in her essay is from her preliminary research statement. Information on international perception or reaction was absent from her final paper. This finding was consistent throughout all three student samples.

“There were books specifically on the Irgun...so it'd be talking about the Irgun and key individuals involved in it....so even though they could've been biased, the individuals would've still been implicated in it even so...I took my own attempt...with the information I had and made it my own opinion’ (Student A).

The process is not recursive. She wanted more similar information, as she had abandoned her goal of finding a source analysing political legitimacy and terrorism. Topic reformulation is not prominent, and the keywords used did not change. Again she retrieved editorials, speeches, and articles that were peripherally related.

I need to find information about specific members of the Irgun....more specific background

She expressed dissatisfaction with all the magazine and editorial information. She then found a book specifically on the Irgun, a topic match but not a genre match, as it was a biography of Menachem Begin. She seemed to be back at square one, learning about the discrete incidents of terrorist attacks by the Irgun, though she expressed a need for information that was more "descriptive." School-based writing, while not located in research institutions, nonetheless responds to a set of assumptions that operate in the particular classroom. Bazerman argues that these criteria must be examined in order to make assessment practices accountable and visible. Not only will assessment practices improve with an increased understanding of genre, but also
classification systems may be able to better match the purposes established in the curriculum. These expectations are shaped by major contextual influences, such as disciplinary knowledge. Bazerman, in speaking about K-12 systems, though, describes most writing activities as:

> different from continuing turns in an ongoing exchange of historical reasoning, or advancing a line of research one has been working on. These initiations remain simple and unspecialized in their statements, having few assumptions and few prior issues to address (Bazerman et al, 2005).

The consequences of library classification systems, however, may be that topical categorizations pull students towards the school report genre (5 paragraph essay) by signposting major topics and sub-topics. For example, the genres of classification may predispose the student to collect information as ‘attributes’, which may be at odds with the genre of the research essay in a history class. Student A employed eclectic browsing through subject guides and subject terms, but topics didn't match her purpose--categories like 'Israeli Palestinian relations, Zionism, Jews, military forces. She needed to discuss regime change, subversive activities and legitimacy of governments. It is precisely these higher level conceptual terms which would have allowed her to organize her exposition, and may have helped her to locate more pertinent research materials.

The student looking for a historical interpretation on the effects of the bombing of the King David Hotel may discover an informational article that presents an overview of the topic, or a research genre that questions established information, or even an opinion essay. However, because the library erased the original situation of writing, the ultimate retrieval of information was misleading. My assumption is that because the cross-references in a retrieval system refer to a high level topical description, students may have changed their topics prematurely, chose texts that
were irrelevant to their initial purpose, and become disoriented in the classification structure. Repeated searching behaviors may be linked to the formal and situational features of the genre. For example, a conceptualization of research as ‘personal opinion’ substantiated with facts may have resulted in a different search process than a conceptualization of research as a means of participating in a disciplinary conversation, or a conceptualization of research as reproducing established knowledge. The students in this study all characterized their essays as personal opinion and analysis. Donald Case (2001) argues that research on searching for articles to complete a research paper has not been well studied because the contexts are unique. Part of the problem is that the types of resources considered adequate to complete an essay for history class may be rhetorically unrelated (see Diagram 4.5).

**Diagram 4.5: Genre Systems**

Situations where sources fit together to complete specific tasks lend themselves better to information systems. However, part of the problem may be that information systems classification does not match the rhetorical features of the history paper. It is the situation that people bring to an information system which determines its meaning. Another aspect is actual history papers. The teacher has students read a historical textbook that takes statements from
research reviews written by research historians and reduces them to summaries. In this case study, it would seem that the genre the students produce is derived from the information seeking process itself. These high school history students may see historical knowledge as random bits of information to be reproduced and summarized. This led to information behaviour that relied mainly on topic-based descriptions. In contrast, a practicing historian would have greater access to the typical language of historical reasoning, and use contextual cues found in abstracts to determine the purpose of the document.

Users have an urgent need for certain kinds of information. Information behaviour analysis can be used to characterize how people who are working in the classification/organization systems, that is how the topic is represented in indexing language, behave differently from those working in the history-essay genre. The characteristics of the type of task may impact processes students use in searching for information. Was the purpose of the student’s assignment writing from primary documents (understand that history involves controversy and uncertainty), to synthesize information from multiple perspectives (practice using various methods of citation), to demonstrate what they have learned about a period (to learn more history through writing), or to learn to produce texts written in the disciplinary genre? In grade 12 students are expected to move beyond the compilation of information. Typically, though, these students did not see the history of the disciplinary system, the many people who have talked in these ways for specific reasons in the past.
4.3 Conclusion

Students today face a greater challenge than ever before: they are no longer required to solely retrieve and reproduce established facts. Students must learn to use specific forms of written knowledge to discuss a particular issue. According to David Russell, within a genre the student is expected to refer or draw on texts of specific other genres either from the same activity system or other particular systems. As Andersen (2005) points out, the way the object under study is present in a document varies according to what knowledge domain the document is representing. Disciplines and educational institutions have long-term objectives and motives, which constrain and afford participants' actions (including writing) in powerful ways (Russell, 1997). Students who are asked to construct interpretations and arguments are learning to write ‘from’ documents whose content does not simply exist in an abstract sense; sources are embedded in a particular view at a particular time of what constitutes knowledge in a certain discipline (Young & Leinhardt, 1998). Students can participate in the scholarly conversation, by extending the interpretation, or perhaps by identifying a gap in the knowledge, thereby transforming established knowledge. Students in this study, though, used rhetorically over-determined news/magazine sources, reference and biographical information; that is, information that was originally written for a different purpose and that heavily displayed certain formal features of the genres used. Newspapers and magazines were easily accessible to students as they are basically a printed version of informal talk. They involved generally familiar or immediate matters, and did not involve much explanation or proof. In a news report, meaning is not accumulated sequentially. A news-issues report begins with some introductory back grounding and setting of context. Each sub-topic specifies the topic or headline and information can be
ordered in a variety of ways. Reported statements are motivated by different contexts and uses. They are explicitly adversarial; for example, objectivity may appear to be obtained by equally pitting opposite speakers against each other. In order to do this, the contexts of the original statements are pruned away. Because of the structure of this information, public information is often charged with distortion. These student writers situated themselves as authority in relation to other ideas and issues. A subjective authorial persona was used to tell readers tell what it was they were reacting to. Modals of certainty signaled their critical stance and dismissal of opposing views. The reader was implicitly asked to identify with the writer's critical position.
CHAPTER 5

CONCLUSION

In this last chapter of the thesis, I first summarize findings from the present study. Then I discuss the limitations of this study and recommendations for further study. Finally, I discuss the pedagogical implications of the study.

5.1 Summary of the Findings

This study examined research performance by three grade 12 History students. The grade 12 History students participating in the study had all completed Advanced Placement credits in history. The implication is that they are performing university level research. They submitted two research essays: one previously completed, and one which they completed during the project. The first interviews were carried out before they began their new research project, and they were asked to comment on their previous essay and describe the research process. Their second papers were researched during the study, and their searching sessions were recorded. Students were asked to comment on their process as they navigated through the information systems. The follow-up interview asked them to comment specifically on the features of their final graded paper that made their paper a "research essay." The purpose of the present study was to investigate how the kinds of knowledge expected from the students, and how the kinds of uses and manipulations that information is to be put through are connected to the access and retrieval
of information. Three major findings emerged from the analyses of the students' information seeking and use of information.

First, one aspect of the situation is disciplinary expectation. These students had all taken AP courses in history; however, the disciplinary situation isn't relevant here because what was found is that they are not producing history papers. What my research shows—and theory would anticipate—is that the patterned activity of writing the paper will determine the activity of seeking information and—more important for our purposes—the activity of seeking information will determine the pattern of the paper. And what I have found is that the papers these students are writing are not history papers. The info-seeking process is determining the writing process and product. Neither is preparation for university level study.

The process of historical research is said to parallel the process of developing a thesis from a topic. I didn't observe this. Instead, I saw high school students come with a pretty firm research statement which they had worked out in class. The teacher gave them suggestions as to aspects of the topic (the information they should search for to include arises out of assumptions in the classroom), they had to write questions and submit them (pre-library). They were told that they need to analyze a topic and this meant having an opinion and looking for information to back it up. Their keywords may or may not match the way information is organized in the information system. The genres they retrieved reflected a variety of sources such as news media, biography, and encyclopedias. As difficult as it is for us to imagine, these types of available sources may not match the motivations of the history paper genre. The classification of items in an electronic system is meant to disambiguate the document genres; however, classification based on topic alone may actually occlude the relevant sources needed to complete the task of
composing a research paper when genre is the criterion of relevance. The relation between the
genre of the paper for the high school history class and the classification in the computer
mediated information systems may not be a functional match: there may be mismatches, crossed
signals, and adaptations. Furthermore, students must make sense of how classification systems
intersect with the genre activities of the classroom when searching for information to be included
in their papers. Classification systems do not necessarily take into account the tasks high school
history students face, and do not support rational arguments to be used in discussion. The library
itself is seen as “an autonomous repository of knowledge.” Key ideas, arguments and
interpretations with which students need to wrestle in order to construct a research paper are not
reflected in the indexing or classification systems. An editorial, while offering a distinct point of
view, nonetheless is written to have an immediate impact—often emotional. A columnist does
not offer an in-depth analysis of an issue, and it may be difficult to bring such a popular voice
into a scholarly discussion. This is what genre theory would ask: What were the rhetorical
purposes of the sources, the significance in the original context that shapes their discourse
patterns?

The process of researching for a history essay and writing is interdependent. I found that
when these grade 12 History students go to the library to construct a history research papers what
they produced was a non-history paper that contradicts the features of history as a disciplined
activity. The situation of library use by students produced a kind of "information-seeking genre"
in which the process itself led students to imagine and produce a certain kind of genre. The
information seeking process emerged through definition of the research genre which in turn
influenced the pattern of seeking information. The performance of historical rhetoric by the
students reveals the 'student as authority'—as centre of knowledge—a role which is re-enforced by the teacher in giving them A's. This finding has important implications for indexing theory. Indexing is not a subjectivist view of knowledge based on how the audience conceives and interprets a document, rather there are relatively stable forms of knowledge that employ consistent patterns, such as topical abstractions (Andersen, 2004). For example, the student attempting to relate terrorism to political legitimacy was unable to access resources that would speak specifically to her question. This led her to change her “opinion” to suit the information that was found. The process of accessing sources, not the sources themselves, led the student to conceive of an ideal essay type that influenced her further research. Linguistic devices such as nominalization could possibly be used to reveal how the author constructs and places various knowledge claims in the document in order to attempt to persuade the audience of the validity of her argument. This construction is connected to disciplinary expectation. Rhetorical genre theory could be used to identify these linguistic devices so that more informed indexing would be possible. More informed indexing could scaffold students into more scholarly ways of looking at knowledge. This could lead them to be able to act more expert than they really are.

Secondly, computer-mediated information systems may be over-determining. They may direct students to particular kinds of resources. What the teachers say happens is that research begins with a bibliographic survey of the most general information available on a topic and then narrows that survey to a sharper topic. I didn't find that students began research with a general bibliographic survey. In their first stage, they looked for general background info to include in the essay—this made the bulk of the citation, and they used topical keywords "Gaza Strip," for example. We need to consider genre in relation to systems or networks of social activity and
action. We are still missing a description of the patterned activities that sediment around the computer mediated information system.

Instructional librarians have great potential to help students become aware of domain specific rhetorical processes. While academic librarians fulfill this role by continued immersion in retrieving certain kinds of information for particular courses of studies, and through reference interviews, these assumptions need to be developed into an explicit vocabulary for articulating genre differences. Additionally, articulating and implementing this potential role for librarians may help students transitioning from a high school way of thinking about knowledge into a disciplinary view about knowledge. The potential of scaffolding students into disciplinary information domains may help them to develop a consciousness about disciplinary differences and how knowledge is generated. The subjective view of knowledge exhibited by students in this study is not a characteristic of university study.

Thirdly, it is the situation that people bring to an information system which determines its meaning. For example, genre theory would look at things such as authorial persona in student papers. Another aspect is actual history papers. The teacher had students read a historical textbook that takes statements from research reviews written by research historians and reduces them to summaries. The kinds of activities that cluster around information systems may be producing a genre that reflects a universalizing conception of knowledge. Part of the problem is that the types of resources considered adequate to complete a history essay may be rhetorically unrelated. A student acquiring the new academic task of writing within a discipline may lack the knowledge to make genre distinctions that are important, and cannot identify contextual clues that would speak to a user more familiar with the genre’s routine conventions. Incorporating non-topical
characteristics of documents into the representation of genre may allow users to clearly identify the relevance of sources to their information need.

5.2 Significance of the Study

The first implication is pedagogical. If we can better design systems to be able to anticipate pathways into received organizational domains of disciplinary knowledge, we are better able to scaffold student participation into knowledge-making discourses. A problem often presented is that students use low quality web-site sources for their research papers, and school/academic librarians have been given the job of addressing this deficit. Thinking of information literacy skills as content that can be learned assumes that students have procedural knowledge about how to use these skills in specific situations. Privileging search skills and retrieval techniques, though, seems to lead to a conception of information as neutral and a lack of real engagement with source materials. Specialized written knowledge is used to perform different goals. Writing and reading are regularized according to the mode of argumentation specific to the purposes established in the classroom. The research genre is unusual because its epistemic role is not to reproduce information, to inform policy, or to reach consensual decision, but to test and develop ideas. In order for students to participate in a democratic society, they need to be able to identify how collective rhetorical strategies are used for propaganda, or to establish reasoned consensus, or to cultivate an allegiance to certain public policies and institutions. Incorporating a disciplinary model of critical activity into the information process models that guide the field can increase the pedagogical role of the librarian as disciplinary discourse mediators. Librarians who have an understanding of the tacit characteristics of the disciplines are better positioned to aid students in retrieving pertinent
sources. Understanding situation-specific genre requirements may help librarians to coach and provide feedback to students in the search for information.

The second implication is for systems design. Providing search domains that are tied to the assumptions of specific courses of study can school students into the use of disciplinary reasoning. When professional historians approach an electronic information system, they bring with them a tacit awareness of the specialized language used in constructing historical interpretations. Historians belong to ‘circles of interest’ that they use to evaluate search results. Scholars may be coming from a more robust situation than high school students, nevertheless, we need to interrogate our pedagogy of knowledge and examine how the kinds of activities that cluster around information systems may be producing a genre that reflects a universalizing conception of knowledge. Knowledge organization systems that organize documents for retrieval have consequences. Jack Andersen, for example, looks at how topical indexing emphasizes surface statements. His work is on how rhetorical genre theory can be used to better represent and index the ways in which knowledge is organized in different disciplines. He argues that how documents are indexed and classified affects retrieval and "impinges on how documents may be used to further public discourse" (Andersen, 2004, p.78). My questions relate to this line of research in that I am wondering how we can expand the pedagogical role of the library to promote critical activity. The promise is in the interdisciplinarity of the study, and its potential to add to the theoretical literatures of LIS, linguistics, and education.

5.3 Limitations of the Present Study

This is a case study on a very small scale with only three participants. Although results of the
present study contribute to the understanding of how genre plays a role in search and paper construction, a number of limitations exist.

First, this study might not present the general types of research in history students are presented with. The type of task presumably would have an impact on the students' research processes and writing. Their research was on a more contemporary history topic, and the types of sources available might be limited because of recent developments.

Secondly, as the searching sessions were being recorded by the interviewer, this may have affected their abilities to do research "outside of class time." Also the participants graduated by the time the interview data were analyzed, so the content in the interview data could not be further clarified in terms of content and meanings.

Thirdly, contextual knowledge is a fallible resource. Linguistic analysis draws substantive conclusions about the way in which the production and effects of those texts are related to the social contexts in which they are produced. This is a tentative connection. This research attempts to make preliminary hypotheses about language and does not provide a comprehensive corpus; therefore, there are no true findings.

### 5.4 Recommendations for Further Study

By examining a few instances of high school history research, we can begin to systematize the features found beyond the sample to a larger study. Further investigation is required to examine how this task representation—the web of evidentiary and conceptual tools-- will also intersect with the patterned activities that went into creating the classification system. In order to design effective empirical studies to investigate students’ use of genre in finding sources, it is first necessary to identify, describe, and
categorize the range of document genres used by the target population and the tasks associated with these documents. More informed indexing could lead students to act more expert than they really are by scaffolding their initiation into genre. In order to design more effective information retrieval systems, we need to discover underlying principles which can be generalized across subject domains. Rhetorical genre theory may provide the principles of specificity and generalizability necessary to build institutional context back into the representation of documents.
WORKS CITED


http://www.db.dk/dbi/samling/phd_dk.htm

Bakhtin, Mikhail (1986). *Speech Genres and Other Late Essays*. Austin: University of Texas Press


Appendix A: Interview Questions and Prompts

Pre-Interview

Interview Questions: Students

1. What kinds of writing activities do you do as a history student?
2. What do you think is the purpose of writing this research paper?
3. What do you think are the specific characteristics of a research paper?
4. Can you explain step by step what you do in writing the research paper? What are the reasons or purposes of each action you go through?
5. For whom do you write your paper? your teacher, a general audience?
6. What issues do you take into account while writing your research paper?
7. Do you consider yourself a member of an academic discourse community (those who ‘talk history’ in a specific way)? Can you explain that?

Interview Questions: Teacher

1. What specific features do you expect to find in an academic research paper?
2. What is the purpose of the academic research paper?
3. How do students construct an argument?
4. What constitutes a good resource?
5. Who should they be writing to? The teacher? Someone without this knowledge?
6. What issues should students take into account when writing their research papers?

Think Aloud Protocol

Prompts: Students

1. Do most students do that?
2. Where did you learn to do that? What is the reason for doing that?
3. Would people not in the class understand that?

Prompts: Teacher

1. Do most students do that?
2. How did you teach them to do that?
3. What is the reason for doing that?
4. Would people not in the class understand that?

Students’ Final Papers

Prompts:

1. Why did you use a citation here?
2. How did you determine what to cite?
3. Were there any sources you decided not to use? Why?

Critical Incident Questions

Interview Questions

1. What happened -- what happened first, second and so on?
2. What did you conclude? Do you think this will be useful?
3. How did the system help? How did it hinder?
4. Were you confused or not? Why?
5. Tell me about it.
6. Were there particular barriers that you faced? What led to them?
7. Tell me about it.

8. In dealing with barriers and questions, what did you do? How did it help? How did it hinder?

9. Were there things in particular about the system that bugged you or got in your way? What? How did they hinder? What did you do about it? Did it work?

10. If you could wave a magic wand, what would be different about the system? What would have made using the system easier? How would these things help?

11. Were there ideas of conclusions you hoped to reach which you were unable to? How would they help if you got to them? What prevented it?

12. Would you get an ‘A’ using this source?
Appendix B Search Process Diagram

Class notes:
- Irgun
- Menachem

- Letter to the editor
- Encyclopedia excerpt
  (Menachem Begin)
- News media

Are part of

Political Legitimacy

Irgun and Terrorism

Terrorism
- U.S. foreign policy

Found

'Calling a Truce to Terror'
(International

--looks for 'terror' in titles

Irgun Members
- --Irgun Attacks

Class:
- Israel and Terrorism

Irgun Members

Media Sources

Have

Have

Biography: Menachem Begin

Episodes of terrorism

Have

116
Appendix C Example of Coded Categories

<table>
<thead>
<tr>
<th>Student Sample B</th>
<th>Category of speech</th>
<th>Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reported</td>
<td>Non-reported</td>
</tr>
<tr>
<td>Question: In what way is the United States of America prohibiting and preventing the peaceful coexistence of the states of Israel and Palestine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A topic especially pertinent today, Middle East peace has been a goal for the latter part of the twentieth century.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Many obstacles have come between global efforts to ease tensions between Israel and Palestine, however it seems that one international force has been a major hindrance to peace.</td>
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<td>The United States of America, while promoting a two-state solution to resolve the situation, has actually been more destructive to the state of affairs than helpful.</td>
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<tr>
<td>But what has the United States done, knowingly or unknowingly, to prohibit and/or prevent this solution?</td>
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<td>With a position on the Quarter for Middle East peace, it appears the United States is in favor and support of the dual creation of the state of Palestine and Israel.</td>
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<td>Alas, this seems to be merely a façade.</td>
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</table>
Since the election of Hamas in January 2006 as the representative body of the Palestinian people, America has economically boycotted Palestine.

Unless Hamas met the Quartet mandate of the renunciation of terrorism, acceptance of previously signed agreements, and recognition the State of Israel, the United States would cut off aid to Palestine. 1

Alvaro de Soto, Secretary General Special Representative to the Palestinian Liberation Organization (PLO) and the Palestinian Authority (PA), stated in response that the creation of a state of Palestine is directly correlated with the stability of the PA's finances.2
Appendix D Excerpt from Interview of a Student

I: I’m going to ask you a few questions about your knowledge of research..can you tell me what kinds of writing activities you do as a history student?
S: Essays, and analytical papers, and questions and interpreting data

I: What do you think is the purpose of writing this research paper?
S: Um..just to broaden our knowledge..to get a better understanding and a bigger variety of information

I: Can you tell me what you think are the specific characteristics of a research paper? What makes this a research paper?
S: Content..writing from credible sources to back up your opinion/argument. And the writing itself

I: What about the writing
S: It should be there

I: Can you explain step-by-step what you do in writing a research paper
S: Well I get the question

I: Are you assigned the question?
S: Well with this one..it was a suggested topic..and again...I watch a lot of news and I know something about the background information..and so I’ll go research ..usually I’ll just go search in google and I’ll get some background information..that I probably won’t cite, but I’ll save it in case I use it.

I: What is the purpose of forming your research question?

S: It directs yourself where you are going with the paper. Instead of talk about vietnam, you can go everywhere with that..it gives a specific branch or channel what you want to talk about

I: What would be your second step?

S: After google, I go to the VPL account thingy..and I use Ebsco Host..and then I went into Dogpile the metasearcher

I: So what was your..reason for starting with a database

S: I started with Google actually first off..just because I didn’t know too much about it and then I’d just get some background information and some very general stuff..and then I went to Ebsco to get news sources..and I usually check different sources so they’re not completely biased..I’ll keep watching the news on tv..a lot of the CBC stuff you can see online ...the BBC..and this one specifically because it was Vietnam and Iraq . I watched a lot of the daily show..while it’s a comedy show and it’s satire, they’ll mention some stuff..say some people’s names and such that I’ll go and search into it.
Appendix E: Ethics Certificate

Certificate of Approval

PRINCIPAL INVESTIGATOR
Asselin, M.

DEPARTMENT
Language and Literacy Educ

NUMBER
B06-0925

INSTITUTION(S) WHERE RESEARCH WILL BE CARRIED OUT
UBC Campus

CO-INVESTIGATORS:
Cameron, Tamara, Education

SPONSORING AGENCIES
Unfunded Research

TITLE:
Genre Theory and Adolescents' Information Retrieval: A Case Study

APPROVAL DATE
DEC 14 2006

TERM (YEARS)
1

DOCUMENTS INCLUDED IN THIS APPROVAL:

The application for ethical review of the above-named project has been reviewed and the procedures were found to be acceptable on ethical grounds for research involving human subjects.

Approved on behalf of the Behavioural Research Ethics Board
by one of the following:
Dr. Peter Suedfeld, Chair,
Dr. Jim Rupert, Associate Chair
Dr. Arminee Kazanjian, Associate Chair
Dr. M. Judith Lynam, Associate Chair

This Certificate of Approval is valid for the above term provided there is no change in the experimental procedures

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