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Representing Information Use in Educational Settings

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. Rhetorical genre theory will be used to determine that there is a problem with students writing high school history papers. 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. Rhetorical genre theory will also be used to determine the method of analysis. It is possible to represent a writer's task estimation by examining the particular features (disciplinary or otherwise) present in her text.

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 resources in 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.

One of the things I've been working on is looking at the conditions under which students are sent to the library to complete a history paper. The grade 12 History students I've been working with had all completed Advanced Placement credits in history. The implication is that they are performing university level research. I'm not the only one who is interested in the standards of research among high school students. The ALA and ACRL Information Literacy Standards are attempting to articulate the sets of skills high

school students should have when entering a university setting. Information literacy standards 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, 2002) and the students’ mission is to ‘access, evaluate, synthesize, and analyse’ that information to create an original product. However, we may be better off thinking of searching as a situated rhetorical activity in this exploration of the intersection of classroom and library. Then one might look for searching behaviors varying according to the task and situation. 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 I've 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.

Let’s think of all the activities and patterns that are mobilized when a student gets an assignment in history class, and imagine what we might expect to be mobilized (this is what we teach and what theory assumes). They are given a choice of topics....they do some 'browsing' i.e. some preliminary reading...identify a topic that interests them...research more....then do a thesis statement...then paragraphs fall into place. The process of historical research is said to parallel the process of developing a thesis from a topic. I don't observe this. Instead, I see students come with a pretty firm research

statement which they had worked out in class...the teacher gives them suggestions as to aspects of the topic (the information they should search for to include arises out of assumptions in the classroom)...they have to write questions and submit them....pre-library..... They are told that they need to analyze a topic and this means having an opinion and looking for information to back this up. Their keywords may or may not match the way information is organized in the information system. The genres they retrieve will reflect a variety of sources such as news media, biography, and encyclopaedias. 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 relation between the genre of the paper for the high school history class and the sources 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 theory¹ would ask: What were the rhetorical

¹ This use of “genre” is rooted in M. M. Bakhtin’s concept of speech genres. The concept of genre is about *function* not form. In this understanding, genres “are conventional structures which have evolved as

purposes of the sources, the significance in the original context that shapes their discourse patterns? 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.

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. 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. Nothing is really accomplished by exposing some untruths on the web. Students do not believe that everything on the web is true; however, they do have difficulties ascertaining the purpose

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).

of academia, and how knowledge has been constructed and generated through a peer-based process of shared disciplinary understandings (Meola 2004). If students were given historical sources, rather than practicing poorly matched topical searching, they may learn more about the discipline.

The process of historical research and writing is interdependent. I've found that when grade 12 History students go to the library to construct a history research paper what they produce is a non-history paper that contradicts the features of history as a disciplined activity. 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. The situation of library use by students produces a kind of "information-seeking genre" in which the process itself leads students to imagine and produce a certain kind of genre. Even if we identify, describe, and categorize the range of document genres used by this population, and the tasks associated with these documents, we are still missing a description of the patterned activities that sediment around the system. Computer-mediated information systems may be over-determining: they direct students to certain types of resources, and re-enforce the stylistic features of this information-seeking genre. For instance, the databases available to high school students primarily contain news, book reviews and reference sources. Students writing a research paper do not necessarily reflect on why people write information and for whom, nor do they discriminate amongst sources based on their underlying motivations. Again, knowledge is seen as "out there" and there is no "why" to the situation. We use systems for social purposes. 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. There is a de-contextualization from the situation. This leads to searching behaviour which I describe as "plucking." Students evaluate sources for pertinence by reading through them as they are searching, and when they find a sentence they think they can use, they pluck it out of its original context, whether news reporting or biography, and cite it in their papers without thinking about the situation of rhetorical production in the original context. Thus, there is also de-contextualization from the surrounding text.² The genre features of their writing derive from their information-seeking process, yet the process itself is not acknowledged in the classroom. What the teachers says 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. Students do some research then come up with questions...in other words, 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. I don't find that students begin research with a general bibliographic survey. In their first stage, they look for general background info to INCLUDE in the essay--this makes the bulk of the citation---they use topical keywords "Gaza Strip," for example. 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. It is possible to represent a writer's task estimation by examining the particular features (disciplinary or otherwise) present in her text. When professional historians approach an electronic information system, they bring with them a tacit awareness of the specialized language

² Students look for information they are already familiar with, that they have 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.

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 activities that cluster around information systems may be producing a genre that reflects a universalizing conception of knowledge.

Three participants completed a history research project in which they designed researchable topics and sought for sources. Four searching sessions were recorded for each individual, and in addition the students completed two think aloud protocols in which they articulated the purpose of research and their processes. Final texts were collected and analyzed. An examination of students’ texts through the occurrence of formal features can reveal how information is transformed and integrated. I used a case grammar approach to examine how students represented history, and to identify salient patterns. 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. I examined a few instances of high school history research papers and discovered some features of the essay genre, and then used a professional history article as a contrastive. Certain case grammar patterns such as who experiences the events of history and how they feel about the forces/events of history were prominent. Some features that I find to be relevant are a subjective authorial

position and a generalized rather than linear time frame. These features contradict the features of history as a disciplinary activity.

Let's look at some stylistic examples and imagine their "information profile." These are library assignments, and the students were required to locate and use documents to construct their research papers. We would expect to see students apply discipline-specific reasoning to accumulated research.

The student sample displays a tendency towards extremely generalized participants or towards herself as subjective experiencer. The student's following sentences establishes 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."

In this sentence construction there is a subject position who experiences negative affect: 'we'. 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 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]

This sentence is also an experiencer statement of negative affect: [someone] experiences this lack of compassion and kindness in human nature, as well as the lack of reasonableness. Subjective feelings are projected onto a generalized subject which could be construed as an indefinite "we." The student is speaking for like-minded others. 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"

Again, there is a subjective experience, this time, in terms of a lack-- [someone] experiences a lack of generosity or selfishness. The student sample continues this pattern throughout the text. Much of the information presented could be known by anyone. It is the students' understanding of the information seeking process that seems to influence the formal shape of their texts. The genre that they have conceived then provides the situational context for determining the relevance of sources. Students say that history is about events that happen in the past; however, the case grammar analysis doesn't elicit this. The student sample shifts between past and present tense. Present tense seems to co-occur in contexts with generalized subjective experiencers. In the student papers, 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 George Hotel. The use of specific dates sounds very much like the historical excerpt. But mainly the student's overall effect is achieved through present tense.

July 7, 2005 yet another attack occurred in London as a series of bombs were detonated and resulted in a frightening death toll.

Fear being the desired outcome, clearly achieved.

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."

"It has been acknowledged, however, that since the disengagement Palestinian Gazas have experienced greater economic and human insecurity."

The affective emotions are attributed to the actual players in the scene. For example, statements of affect in the scholarly writing sample are couched within an establishment of the chronology, events, and players of history. The use of present perfect, together with the reporting expression, suggests that scholarship on this issue is recent. The scholar uses verb tense to situate herself amidst those other scholarly voices--The way the scholar situates herself in relation to other work, ideas, and issues is marked grammatically through verb tense. Present perfect is used when summoning the status of knowledge. These linguistic pragmatic features reveal how writers situate themselves in relation to some other work or idea or issue, how writers tell what it is they are reacting to. They use certain reporting expressions and verb tense to signal their critical stance.

In the scholarly form of affective language, the fifth and seventh sentences exhibit the same feature, with definite sources of negative affect, with experiencers who are players in the event.

"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."

The experienter statements in the scholarly sample continue a pattern throughout that references state, nation or the concept of independence. The scholar, in contrast maintains a consistent picture of the past through past tense, and uses present tense to signal her own critical stance, and present perfect to represent the scholarly discussion. The reader detects the student writer's critical position through interpretive language, not by marking the gradation between respective ideas grammatically through tense shifts.

The use of present tense in the student sample occurs within generalized contexts--either general 'truths' about human nature, or blanket statements encompassing subjective statements. There is a generalized time frame and generalized affect. The difference is that the scholar confines her chronology to a clearly defined space, while the student introduces a new time frame. The "big picture" she is representing is at variance with specificity of the events that the scholar represents. The scholarly paper, in contrast, uses time markers and simple past tense to establish a very specific time frame in the first 2 sentences. Past tense, in fact, continues throughout the greater part of the scholarly sample showing very little variation--variation that occurs is generally in keeping with a narrative format and an establishment of a chronology.

*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.*

Rhetorical genre theory may be used to construct a representation of information use within an educational setting. In this case study, it would seem that the genre the students produce is derived from the information seeking process itself. A high school history student may see historical knowledge as random bits of information to be reproduced and summarized. This may lead to information behaviour 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. 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. There may be a slippage or gap between what counts as a history research paper in university and what papers for history class look like in high school. This slippage may have consequences for students as seekers of information, and larger

implications for how students view knowledge. 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. An interdisciplinary approach that integrates classification theory, information seeking behaviour, and rhetorical practices may help to characterize effective models in information retrieval.

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