Using an Academic Content Seminar

to Engage Students with the Culture of Research
Abstract

Many research-intensive institutions are becoming concerned about how they can effectively introduce students to the research culture that sets such institutions apart from technical schools and junior colleges. The first year seminar with academic content is a possible way of accomplishing this objective because it can be focussed on students’ own research projects. However, relatively few studies address the pedagogical dimensions of such seminars or how students perceive their transition from a high school to a university research environment. A case study of an academic content seminar focussed on research illustrates how such seminars can promote engagement with research culture. Interviews with students illustrate the gulf that they perceive between high school and university research. Three pedagogical features of research-based first year seminars emerge as important means of bridging this gulf: repeated exposure to research activities, a term-length research project, and frequent, scheduled one-on-one conferences with the instructor.
Using an Academic Content Seminar to Engage Students with the Culture of Research

First year seminars are now firmly established as an important means of helping students make the difficult transition from high school to university. Recently, however, many institutions, especially research-intensive universities, have identified a need for ways to help students make the more specific transition to the research culture of the university. This paper argues that first year seminars with academic content provide an excellent means to help students make this transition, and presents a case study of a first year seminar program in which academic content seminars are used to provide an important grounding in the culture of academic research.

The category of first year seminar with academic content was first clearly established in Murphy’s important taxonomic article published in the first issue of the Journal of the First Year Experience (1989). Murphy distinguishes between Success/Survival/Orientation seminars, perhaps better known as the University 101 model, and Academic Content seminars. Murphy describes the latter as follows:

This model differs [from the U101 seminar] primarily because of the emphasis given intellectual content. The great books of literature or current social issues are often the medium of course content. Objectives generally center around the improvement of communications skills, especially the development of critical thinking. (p. 96)

Later surveys by the National Resource Centre for the First Year Experience (Andersen, Gardener, Laufgraben, & Swing, 2003) break the category down into two subtypes: courses with uniform content across sections, and courses with variable content, generally chosen by the instructor and keyed to his or her research. These surveys report that seminars with variable academic content comprised about 12% of seminars reported in 2000, a steady increase from 7% in
1991. The academic-content seminar, particular the type with variable content, is clearly an increasing trend.

Academic-content seminars appear to be more proportionally more common at research-intensive universities. The Policy Centre on the First Year of College has conducted a survey that explicitly targets Doctoral/Research-Extensive universities according to the Carnegie definition (Cutright, 2002). The database resulting from this survey does not break out academic content courses from other types, but by inspecting the individual program summaries it is possible to estimate that about 18, or approximately 25%, of the 70 responding universities feature academic content seminars as at least part of their FYE program.

Because the proportion of such seminars is steadily increasing, it is important to understand the various models in existence and how they try to meet their goals. In particular, how do the goals of research-intensive universities translate into pedagogical practices that articulate with those goals? How do the pedagogical practices of such seminars affect students’ experience of engaging in research at the post-secondary level?

There is remarkably little literature that addresses these questions directly. Most studies in the literature on first year seminars address correlations between students’ access to first year seminars and factors such as retention, satisfaction, and later success. Many focus solely on extended orientation seminars. Even studies that focus on academic content seminars (see for instance Hyers & Joslin, 1998; Maisto & Tammi, 1991) often offer little discussion of the ways in which these seminars might differ from other types of seminars in terms of goals, pedagogy, and students’ perceptions of what they have or have not learned. Moreover, academic content seminars are generally treated as a homogenous group. It is not clear whether there are different types of academic content seminars with different goals and corresponding pedagogies.
One partial exception is a recent survey by the Policy Center on the First Year of College, reported by Swing (2002). This survey divides first year seminars into four types: Discipline-Specific Theme, Special Academic Theme, College Transition Theme (the familiar U101 model), and Remedial/Study Skills Theme. Seminar types are compared across ten learning outcomes: study strategies, academic/cognitive skills, critical thinking skills, connections with faculty, connections with peers/others, out-of-class engagement, knowledge of campus policies/procedures, knowledge of campus services, managing time/priorities, and knowledge of wellness/spirituality issues.

Given such a wide variety of learning outcomes, it is not surprising that different types of seminar are better at achieving some types of outcome than others. College Transition seminars score best overall on the ten measures combined. However, Special Academic Theme seminars score best on two outcomes: academic/cognitive skills and critical thinking skills. They were also rated by a nearly equal proportion of students as highly effective in improving connections with faculty, improving connections with peers/others, and managing time/priorities (Swing, 2002). This evidence suggests that academic content seminars are especially strong in supporting learning outcomes highly valued by research-intensive institutions. It is therefore important to research universities to have a deeper understanding of how such seminars function.

This paper argues, in part, that in order to understand how such seminars function we need to examine more closely one particular feature of college transition: academic engagement. Academic engagement seldom appears as a category in studies of first year seminars. In one of a relatively few studies to address the issue directly, Aldridge and DeLucia (1989) argue that many students drop out of college because they are just plain bored, and recommend a more stimulating classroom environment as a remedy. Involvement through stimulation, however, is only one aspect of
engagement. To be fully engaged, particularly at an institution in which research is an important part of the institutional agenda, students need to be engaged specifically in the acts of intellectual discovery that mark the academic community.

The Boyer Report (1998), one of the most influential documents to address this aspect of the research culture, explicitly links academic engagement to the first year seminar:

The focal point of the first year should be a small seminar taught by experienced faculty. The seminar should deal with topics that will stimulate and open intellectual horizons and allow opportunities for learning by inquiry in a collaborative environment. Working in small groups will give students not only direct intellectual contact with faculty and with one another but also give those new to their situations opportunities to find friends and to learn how to be students. Most of all, it should enable a professor to imbue new students with a sense of the excitement of discovery and the opportunities for intellectual growth inherent in the university experience.

(p. 20)

The Boyer Report thus sets an agenda for research universities that includes attention, not just to academic survival skills, but also to introducing students to ways in which academic inquiry itself can be a source of satisfying intellectual challenge. In a later report (2001), the Boyer Commission reports that an increasing number of research-intensive institutions are including inquiry as an important focus of the freshman experience. The same report, however, admits that the definition of inquiry is not entirely clear: “Sometimes the discussion includes questions about what actually constitutes inquiry-based pedagogy; there does not always seem to be a clear consensus” (p. 6).

Literature on bibliographic instruction can give us a clearer picture of what is involved in introducing undergraduates to the complex skills of secondary research, and, more important, the complex academic culture that underlies these skills. Mellon (1984) and Kuhlthau (1988) report
that undergraduates need to understand research as a complex, integrated process, not just a series of tools applied in a systematic, linear fashion. Fister (1992) conducted in-depth interviews with fourteen successful undergraduate researchers, and describes their research processes as highly recursive and heavily focused on the problem of how to formulate a useful research question in a context in which they are not experts. Leckie (1996) reports a huge gulf between the information-seeking strategies of the expert researcher and somewhat naive strategies of the average undergraduate student:

Do undergraduates have a good understanding of how scholarly sources are produced, and for what purpose? Do they understand why a textbook may not be considered an appropriate source for a research paper? Are they aware of where all those encyclopedia articles come from, and when one might best use them? Do they realize that the person who writes in *Newsweek* and one who writes in the *Annals of the Association of American Geographers* are two very different types of authors, writing for different audiences and purposes? Evidence is mounting that undergraduates have, at best, only a vague awareness of the answers to these questions, and have great difficulty judging the difference between types of sources, particularly early in their university education. (p. 204)

Such studies underline the need to incorporate research skills into the investigation of a body of content rather than entrusting this teaching to free-floating brief workshops on library instruction. There is mounting evidence that such seminars are not effective because the research skills taught are not embedded in a larger context of academic culture (Eadie, 1990; Fister 1992, 2002). On the other hand, purely content-oriented courses encourage faculty members to cover a great deal of material, often in lecture format. This need for coverage leaves little class time to develop students’ understanding of the research process itself (Leckie, 1996; Brent, in press). The research-
oriented first year seminar offers a way to bridge these two extremes. By thematizing the process of research itself – including not just library skills but also critical reading, critical thinking and extended practice in writing (Runciman, 1998) – the research-oriented first year seminar can provide an environment in which students can learn to make the transition into university-level academic literacy (Lea, 1998).

A research-based first year seminar can afford students an opportunity to be legitimate peripheral participants in the research culture of the university. Lave and Wenger (1991) describe *legitimate peripheral participation* as a vital means of joining any community of practice. Apprentices in a community of practice begin by taking part, at a highly junior level (that is, at a *peripheral* level) in the activities that constitute the community they are joining. In the case of the research university, these activities are the activities of research, including making contact with the web of knowledge that constitutes a discipline (Brew, 2005). The first year seminar has the potential to provide a focused but relatively safe space in which students can begin to explore this bewildering system of activities with ongoing support and step by step guidance.

Literature on students’ transition from high school to university tends to obscure discussion of this particular aspect of transition into the university *research* community. This transition is rooted in the complex lived experience of the classroom. From the perspective of transition, we have relatively little fine-grained information on how classrooms built around the research process are experienced by students. As Tinto (1997) points out: “Though it is evident that classrooms matter, especially as they may shape academic integration, little has been done to explore *how* the experience of the classroom matters, how it comes, over time, to shape student persistence” (p. 599).
The present study seeks to add to the literature on students’ transition to a research-oriented environment by focusing, not just on the skills that students are learning, but rather on their personal perceptions of the classroom experience in which they learn them. The study is organized around two broad research questions:

1. How does students’ experience of research change from high school to first year university?
2. How does students’ experience of research in a research-oriented first year seminar help them deal with these differences?

A case-study approach is used in order to provide a focus on the details of classroom practice in a research-oriented seminar. The study seeks to illuminate the transitional issues that result from entering an institution with a strong research culture. In particular, it seeks to increase our understanding of how pedagogical strategies intended to increase engagement with this culture are viewed by students.

Background and Context

The setting for the study is a first year seminar program at the University of Calgary. This program takes its goals explicitly from the Boyer Report, and is designed to help students engage with the process of academic inquiry that characterizes a research university.

Calgary, Alberta, Canada, is a large, rapidly growing and professionally-oriented city. The University of Calgary is a medium-sized university (approximately 28,500 students) with a clearly established mandate as a research institution. This mandate is vigorously underlined by its newly adopted Academic Plan, which declares that “the foundation of scholarship, on which all our activities rest, distinguishes us from other post-secondary institutions” (University of Calgary, 2002, n.p.). The university is primarily a commuter campus, particularly at the undergraduate level, although 18% of all students are from out of province and 6% are visa students. Gender
balance is 54% female. No data is available on socio-economic and ethnic status of students but there is no indication that the university attracts more at-risk students than any other. The withdrawal rate for first year students is approximately 15%.

All students take a mandatory, non-credit orientation during the first three days of term. This orientation is called University 101, and serves many of the functions of the typical University 101 seminar, from career guidance to university bureaucracy. In addition, academic first year seminars are offered on a faculty-by-faculty basis. The Faculty of Communication and Culture, an interdisciplinary faculty that attracts a high proportion of undecided first year students, offers first year seminars with variable academic content. The course is called General Studies 201: First Year Inquiry Seminar. It is a one-semester (three month) course offering the equivalent of three units of general option credit. The course is taught in sections of 25 students each and is highly recommended but not mandatory for all students in the faculty. It is taught exclusively by tenured or tenure-track faculty members, recruited on the basis of their reputation as teachers and rewarded by the opportunity to teach a relatively small class on a topic related to their research interests.

The course has been taught in its present form since 1999. In 2005-06, the course will serve 200 students on a first-come-first-served basis. This number represents only 10% of the faculty’s total first year enrolment, but the faculty has a long-term goal of making the seminars mandatory for all incoming first year students.

The curriculum of GNST 201 directly reflects the Boyer Report’s advice to use first year seminars to engage students actively with the research environment. As the seminars were being designed in 1998, faculty members were polled informally to identify their concerns about student engagement. Their comments made it clear that the goals of the Boyer Report were not being consistently met at the University of Calgary in 1998. The most serious concern identified by
faculty members was not attrition as such, but rather disengagement. Faculty members were deeply concerned about the number of students who were able to persist in the system without being able to engage fully in the intellectual challenge of discovery. Faculty members described students who were unwilling to read beyond the minimum required to pass the exam, who took a superficial approach to writing research-based papers, who were unable or unwilling to use the library, and who generally did not seem able to find any joy in finding out about the world they lived in. In short, the students that faculty members identified as the most troubling were not necessarily the least skilled; rather they were the most passive.

The seminars were designed in 1998 by the Curriculum Committee of the Faculty of Communication and Culture. In order to meet the concerns expressed by faculty members, the seminars are focussed on academic content. This academic content is used as the core of a student-driven research experience. Acquisition of skills such as using the library, judging the quality of information on the internet, writing academic prose, and critical thinking are taught in the context of a semester-long collaborative search for answers to intellectual problems. These problems are suggested by the course theme, but focussed into researchable questions by the students themselves.

Professors select the general topic of the seminar based on their own research interests rather than being required to teach to a general topic common across sections. As noted above, this variable-content model is less common than the seminar with common content across sections. However, it was chosen because it is important that students see research practices modelled (Bean, 2001). For students to see themselves as legitimate peripheral participants in the research process, they must be able to observe and participate in a limited way in the daily practices of academic research as modelled by their professors. The Curriculum Committee believed that this effect
would be enhanced by working on a topic related to the professor’s field of research. However, topics are sufficiently broad that students can find their own questions within them rather than simply replicating the professor’s exact research area. Many make explicit reference to local history and culture in an attempt to engage with students’ personal experiences. A list of the topics available for 2003-04 is included as an appendix.

One of the most important objectives of the course is to help students become confident in using the resources of the university. As previously noted, literature on bibliographic instruction suggests that students typically learn little in the typical skills-based library orientation session because it is too distant from the “need to know” context furnished by ongoing research assignments (Eadie 1990; Fister 1992, 2002). Accordingly, GNST 201 is designed around a curriculum-integrated approach to library orientation (Mellon, 1984; Leckie, 1996). In a curriculum-integrated approach, academic librarians have a term-long relationship with the seminar and build their orientation activities around the assignments that students are currently preparing.

Bibliographic instruction literature also suggests that one of the main deterrents to student success in the library is not simply a lack of procedural knowledge – though students have plenty of gaps in this area – but simply sheer terror. Library anxiety (Mellon, 1986) manifests as severe anxiety surrounding all aspects of the research process, including finding sources, resolving a topic, interpreting material, and even entering the library itself. Ironically, the librarian – the very person who is best positioned to help students find their way through the maze of the library – is so deeply integrated into students’ overwhelming sense of anxiety that students typically are afraid to consult him or her for fear of looking foolish (Fister, 2002). This highly personalized anxiety is possibly abetted by unflattering and threatening portrayals of the librarian in popular culture (Radford &
Radford, 2001). Workshops on bibliographic instruction are likely to be so overwhelming that they only compound the problem (Mellon, 1986).

An important goal of GNST 201 is to establish the librarian as a person that the student researcher can and should turn to for help. Faculty members provide instruction on how to ask questions that are sufficiently focussed that librarians can answer them effectively (Bodi 2002). Librarians visit classes but do not overwhelm students with all they might need to know about the library. Rather, the visits are chiefly warmth sessions (Mellon 1986) in which the major purpose is simply to help students get to know the librarian as a person to whom they can easily turn for help. Librarians also keep specific office hours dedicated to students in GNST 201. Thus the interactions between librarians and students are moved from abstract workshops to contextualized interactions during the course, in which librarians walk students through the process of finding materials relevant to their current assignments.

Another related goal of GNST 201 is to help students get to know the faculty members as collaborators in the process of constructing knowledge rather than as authority figures dispensing knowledge. Fear of the professor is not as well documented as fear of the librarian. However, during the informal design sessions faculty members at the University of Calgary reported over and over that few students would approach them to discuss problems or to seek advice, despite repeated invitations to do so. GNST 201 deals with this problem not only by limiting overall class size, but also by requiring faculty members to book personal appointments with every student at least once during the term, whether or not the student is having a problem. Faculty members dedicate some class time and some out-of-class time to reviewing proposals, working bibliographies and drafts with students both one-on-one and in small working groups. These conferences are intended to help students understand that the professor is both a useful resource and a relatively unintimidating
human being. They also allow the professor to offer guidance when the project is still open, not just feedback at the end, when the project is closed. When feedback is given only at the end of the process, the instructor’s thoughtful written comments can only be summative, not formative – a justification for a grade rather than helpful advice (Bean, 2001).

The course is also intended to help students move beyond using knowledge-telling strategies in which they simply find and report information, to using knowledge-transforming strategies in which information is used as a resource for developing new, integrated ideas and arguing new conclusions (Bereiter & Scardamalia, 1987). To create an environment conducive to these higher-order strategies, the course uses extended assignments as recommended by composition researchers such as Nelson and Hayes (1988). Nelson and Hayes show that students are more likely to adopt what they call high investment strategies when instructors can lead them through the process of writing a research paper in gradual stages. GNST 201 is therefore built around a series of assignments that explore a single topic in gradually deepening multiple passes. Students begin with brief, often ungraded papers that explore their own prior knowledge of and questions about the topic. They begin to explore the library and internet sources by writing a series of research summaries and literature reviews. They present tentative results to the class in oral presentations, and share their strategies and the materials they have collected with the rest of the class. The process culminates in a final paper based on an entire term’s work.

Although the course is intended to impart a wide variety of specific research-related skills, its broadest goals are affective. It is intended to help students become comfortable with their professors, the library, the research process, the university as a whole and their own place in it. Ideally, it can help them to appreciate and perhaps even enjoy finding their own answers to
questions through inquiry-driven research. It is designed to welcome them as legitimate peripheral participants in a community of learners and researchers.

Method

Because the goals of the course go beyond individual success skills, quantitative measures of effectiveness are likely to miss some key elements of the desired outcomes. The most basic goals of GNST 201 are affective: the seminar seeks to make students more comfortable in a research-intensive environment and make them feel a part of the research culture that now surrounds them. Therefore the study focuses on students’ personal perceptions of their research experiences.

As noted in the introduction, this study seeks to answer the following questions:

1. How does students’ experience of research change from high school to first year university?
2. Does students’ experience of university research suggest that they have confidence in their research abilities? If so, what are the sources of this confidence?

Answering such questions requires considerable probing of students’ experiences. Therefore a qualitative approach using semi-structured interviews of students was selected. This approach allowed for detailed exploration of students’ personal experiences and discussion of the meanings they assigned to the activities in which they had been engaged both at high school and at university, and both within and outside the first year seminar. The procedure and interview protocol is described more fully below.

Sample

Faculty members teaching four of the six seminars offered in Fall 2003 volunteered to allow their students to be recruited for the study. These four classes were approached and students asked to make contact with the researcher if they were willing to be interviewed. 18 students in total
volunteered. Owing to the case-study nature of the research, it was not felt necessary to stratify the sample, so all who volunteered were interviewed for the study.

All but four of these students were from Calgary area high schools, and all but one was white. 15 were female and 3 male. Owing to the relatively unstructured nature of the Communication and Culture first year, the other courses taken by these students are highly varied, providing an opportunity to compare students’ experience in GNST 201 with their experiences in a wide variety of courses across the arts and sciences. Of the 18 students, 14 reported that they had entered university without having decided on a major. However, by the time they were interviewed in January, most indicated that they had decided, with varying degrees of firmness, on majors ranging from Communications Studies to Architecture. The sample was reasonably representative of first year students at the University of Calgary with the exception of the high percentage of female volunteers.

*Interview Protocol*

The questions guiding the interviews functioned not just as a means of eliciting specific information but also as prompts for broader discussion. Approximately 45 minutes was allowed for the entire interview, so the interviewer had flexibility to pursue additional lines of discussion arising from students’ initial answers.

The following questions were used as discussion prompts:

1. Have you written what you would call a *research paper* in any of your courses? Tell me about it. What was the assignment? How did you approach it? What process did you go through. Give me a step by step story.

This question asks for “what you would call a *research paper*” in order to avoid prejudging the student’s definition, and to provide an opportunity for students to refine their operational definition
of what a research paper is. It asks students to speak to “a research paper in any of your courses” to elicit stories about both the GNST 201 research paper and any others that students might think of as equivalent. Thus the question invites comparisons of the research process as modelled in GNST 201 and in other courses. The request for a “step by step story” is intended to elicit a response in a narrative format and to encourage students to report on their research processes in detail.

2. Can you name one project that you did at high school that you would call a research project? Tell me about it. Give me a step by step story. Is doing research at university different?

This question invites students to speak not only to the question of whether university research is different from high school research, but also to the question of precisely how it is different. Responses to this question can suggest whether students perceive that they have the same transitional difficulties that the designers of GNST 201 assumed they would.

3. Would you say that you are comfortable writing research papers? If so, what has helped you become more comfortable?

This question is the closest to a direct question about whether students found GNST 201 effective. It is, however, designed to be sufficiently open-ended that students will feel comfortable reporting other experiences outside that course, and perhaps outside the university, that have made a difference to their writing of research papers.

In many cases students produced fairly full narratives of their lives as initiates to a research community, and volunteered complex descriptions of their transition from a high school research environment to that of the university. The interviews were transcribed and the resulting 430 pages of data read and reread for emergent themes. Nvivo was used to facilitate coding. Passages were assigned to tentative nodes which were moved and consolidated as themes began to emerge.
Because of the deliberately open-ended and recursive nature of the questions, information related to various aspects of the two major research questions tended to emerge at various points during the interviews as the questions guided students into thinking more and more deeply about their definition of research and their experiences of doing it. Therefore results are reported below by research question and emergent theme rather than by interview question.

Results and Discussion

Research Question 1: Differences Between the High School and University Research Environments

Throughout the responses prompted by the questions, students made references to powerful differences between the university and high school. This is not a surprising outcome: most of the literature on transition points to such differences. The present study, however, focuses on perceived differences between research processes at high school and university. It is in their detailed descriptions of these processes and the differences between them that students provided the most interesting information. Responses related to this transition were grouped into the following emergent themes:

Difference 1: Ways to defend an argument.

Not surprisingly, many students noted a significant increase in workload at university compared to high school. However, students most often expressed this increase as a qualitative difference, not just a quantitative difference:

I certainly didn't know what was expected of a research paper, you know, because I was so used to really simple things. I didn't try in high school and I got really good marks just because, just having your own ideas and talking about them seemed to validate them. And I didn't know how things worked, it was very overwhelming.
This student reports being overwhelmed by the fact that he “didn’t know how things worked.” What seems to surprise him most is that fact that at university he cannot validate ideas just by “talking about them.”

Another student expands more on the differences between how arguments are validated at university versus at high school:

The majority of the papers I wrote [in high school] were Social Studies papers where you take a stance and they give you a question and you just start writing and defend it. And so there wasn’t really any hard evidence or research that you had to do, so I wasn’t used to the idea of researching, going out and getting all these books and magazines and pulling it all together. This student articulates a difference between defending a viewpoint by pure argumentation and defending it by reference to information and authorities identified through research. The student is somewhat vague about exactly what the latter process consists of: “going out and getting all these books and magazines and pulling it all together” is a very superficial view of research. The omnibus phrase “pulling it all together” suggests that this student has little vocabulary to describe the complexities of making arguments based on secondary sources. But it is striking that these and other students are keenly aware that university requires arguments to be defended by reference to specialized information rather than by argumentation based on general knowledge.

**Difference 2: Research as a creative act.**

The sense of difference between high school and university research was underlined by students’ responses to the question “Can you name one project that you did at high school that you would call a research project?” Many students hesitated and fumbled when trying to answer this question. Most of them had done one or more projects that required them to find information independently and use it as a basis for an essay. But by the time they had finished three months of
Some students were no longer sure whether these projects even fit the definition of research:

I wouldn’t necessarily say they were research projects because they were more gathering facts and putting them together as one big essay basically. I think an actual research project is when you spend a lot of your time looking for information and with that information you produce something new that no one’s really heard of, I think. But what I was doing was more like gathering information that people might have already known and putting it together as just a presentation of that information.

This student neatly summarizes a major difference that many students found between high school and university research. She sees her high school work as little more than stringing facts together in what Bereiter and Scardamalia (1987) call a knowledge-telling mode. She has already begun to aspire to a more knowledge-transforming mode, in which the information is brought to bear on a more or less original thesis. From this vantage point, the knowledge-telling mode that she associates with high school seems no longer even worthy of the name research. Other students shared different versions of this view, often looking back at what passed for research at high school with a certain degree of contempt (spoon-feeding, regurgitating the textbook, etc.). These responses indicate that their thinking on this subject has already begun to shift as they enter the outer fringes of the academic research community.

**Difference 3: Requirements for documentation.**

Many students were surprised or even shocked at how much stock the university puts in careful documentation of sources. Most conveyed the impression that, although they had been expected to supply some form of bibliography in high school, teachers did not particularly care about citation style or even completeness of references. In-text documentation could be very laissez-faire or
completely absent without drawing ire. One student described her high school research practices as follows: “Footnotes – never. Just a bibliography at the end.” In contrast, the university struck many students as being highly conscientious, even bureaucratic or paranoid, about documentation and plagiarism:

Personally I'm terrified of accidentally plagiarizing, getting kicked out of university. Just the thought of unwittingly you know painting myself into a corner like that is just terrifying. You have to be so much more careful. In high school they certainly didn't push us academically that way. I mean they tried to say they were preparing us for university but they certainly weren't.

This sudden concern over exact citation emerged as one of the key features of academic transition for most students. Students were not always able to articulate why the university is so particular about documentation. Most were simply surprised at the ferocity with which faculty members and university documents project an abhorrence of plagiarism, even to the point of making students fear inadvertent plagiarism and its reportedly dire consequences. In attending to this abhorrence of plagiarism, however, students may be noting a surface manifestation of one of the most deeply rooted features of academic discourse. Academic discourse is always embedded in a larger discourse community, an ongoing scholarly conversation from which academic writers draw ideas and with which they engage in debate. As Hunt (2004) argues, academic writers are deeply concerned about making readers aware of their sources, not simply to avoid being accused of plagiarism but also to reveal the complex web of discourse that underlies their own. None of the students interviewed in the present study was able to articulate the difference between high school and university discourse in such complex terms. However, their hyper-awareness of plagiarism suggests that they had made a first step toward understanding this difference in discourse conventions.
Difference 4: Library anxiety.

Not surprisingly, the library also came in for its share of transition anxiety, although students reported less anxiety than the bibliographic instruction literature might lead one to expect. A very common thread was the sheer size of the library:

When you first get here you're on your own. You have no guidance and when you walk into that library, I didn't even know where to go. I walked in the door and I didn't know what to do next basically. People coming from high school, they might have a research background, but they will be very intimidated by the size of the library, where to start, all that stuff.

This student’s initial reaction to the size of the library was typical, but her sense of being “on your own” and having “no guidance” was not. Most students reported being fairly comfortable finding out how to use library resources through a combination of trial and error and the library introduction integrated into GNST 201. In particular, most students conveyed little sense of being intimidated by the library staff:

It’s ginormous compared to my high school library. But people are pretty helpful like you could go and talk to people, use the Internet, be on line and look for books, that helps also so, so I think it’s a good setup, it helps.

Several students in the sample explicitly connected their relative confidence in using the library to their experience in the first year seminar:

When we were in the office getting the outline fixed, he [the professor] had a bunch of suggestions, people to contact and stuff, and I would never, I don’t think call the librarian, I don’t think I would ever actually talk to them except to ask where’s this or where’s that, but she [the librarian] had a bunch of information where I could find all these statistics for how many
people go by on the road a day, like all these different suggestions that I could use, and I found them and I was really impressed.

This student suggests that she would normally never have approached a librarian directly.

However, during her one-to-one conference with the professor, she received a fairly specific road map to using the human resources of the library. On the strength of the professor’s “bunch of suggestions, people to contact and stuff,” the student is pleasantly surprised to find that the librarian has a wealth of information and suggestions that specifically relate to the student’s topic. Significantly, no student reported becoming more confident in using the library because of the basic orientation that each student is given in September. Rather, they reported that making person-to-person contact was the main reason they felt able to navigate the library.

Research Question 2: Sources of Confidence

With regard to university-level research itself, various forms of success narratives were woven through students’ answers. These narratives, perhaps more than simply the answers to Question 3 by themselves, reveal ways in which students’ plunge into the research environment is made easier by a variety of means. Students found a number of ways of building confidence in their ability to seek their own answers through research. When they described their research projects from day one to handing in the final draft, their stories generally reflected a sense that the buzzing confusion of the first few weeks was already beginning to lift.

These narratives were grouped into three themes:

Source of confidence 1: Recursive research.

A theme that emerged from the interviews was a sense that students gained confidence from being walked through versions of the same process repeatedly. The term assignment for the course is incremental and recursive: that is, students must return to the library repeatedly as they progress
from general background research, to research designed to help them focus their topic, to detailed research on specific aspects of the topic. The following student expresses a strong link between this repetition and her feeling that she now knows “more than other people”:

Just because I had to do it so many times, find stuff on my own. So now I feel like I can and I feel like I know more than other people that didn’t take that course. I feel like I am one step up from them so, it gives you that confidence. Even if you’re not really sure that you know what you’re doing, you feel like you probably know more than other people.

This student is still tentative, like all students interviewed: she expresses confidence “even if you’re not really sure that you know what you’re doing.” But because she “had to do it so many times,” she feels a sense of independence and an ability to engage more confidently in finding and using sources.

Another student expresses this sentiment in terms of depth rather than repetition:

Learning how to really get in, like dig into the research. And I think as long as that is provided to them in their classes, I just think it’s so much better for them and I think that it shouldn’t just be you know like a one-class thing.

This student’s declaration that research shouldn’t be a “one-class thing” highlights the contrast she feels between the research process as presented in GNST 201 and the research process as presented in other first year courses, in which students receive instruction in, at most, one class and then are expected to be able to work through the complexities of the research process without further guidance.

Many students linked their learning even more explicitly to the long time span over which they were able to develop their projects. The following student began by relating a bad experience with
a class in which students were expected to complete a research assignment from start to finish in two weeks with very little feedback from the professor. She contrasts this to GNST 201:

In my General Studies course we were given a month and a half. During the process we’d have check-in dates, we’d have peers edit it or review it, and we decided which direction we would like to go.

The longer assignment did not necessarily translate into a more leisurely pace. Time and again students reported that they had needed to begin work on their project early and keep at it constantly to avoid falling behind. But the longer time span allowed the professor to provide a wide range of class activities aimed specifically at helping students complete the project successfully:

The whole class was about that one paper and about research and [the professor] was always saying, "Okay well this is how you research this, and this is how you research this." I mean we did a library orientation day, she'd have a day where we'd talk about drawing information from media sources, like films and stuff like that. And she did a whole thing on Internet based research and everything like that. Whereas the other teachers, it was sort of just like, "Well this paper, we're only going to spend like a week talking about this paper." So it was all sort of like, "This is where you can get your sources, go to the library and that's it."

This student, like many others, underlines the complexity of the research process and how much time it can take to walk students through all of its labyrinthen variants.

*Source of confidence 2: One-to-one conferences.*

Many students commented on the individual feedback from the faculty member that was built into the course as a structural element:

When I had to hand in the rough draft it wasn't necessarily marked for editing or anything like that and after I'd gotten it back I got to have a one-on-one interview with the professor so that
she could tell me what I needed to change to get a better mark and what her opinion of the paper was and what exactly she got out of it. It helped me a lot more than any of my other classes did because having that one-on-one conversation and someone else's opinion really helped.

The student quoted above thinks in terms of “what to change to get a better mark,” which is a rather instrumental view of the discussion. However, at least she appreciates the fact that the conversation helped her understand what another reader “got out of it.” This is an important step in building rhetorical awareness. It is particularly important that this conference was formative rather than merely summative: by calling in students at the rough draft stage, the professor is able to make students aware of the effect of their writing on a reader while they are still able to take advantage of the advice.

Another student’s report suggests a dawning comprehension of writing as a knowledge-transforming rather than a merely knowledge-telling experience:

I kind of wrote up basically a rough draft of it, and that was kind of a little hodgepodge, but then I went in and I talked to the professor, and she kind of sent me in a better direction of how this is what I really wanted to write. Basically just elaborate the points that said, you know, this is why it was written and this is, you know, this is what I really believe because, you know, there’s overwhelming evidence.

This student does not speak of changing the paper “to get a better mark.” Rather, she speaks of being able to say “what I really wanted to write” as a result of her conference. She also speaks of her sources as evidence for a sincerely held belief. This use of evidence stands in sharp contrast to most students’ descriptions of high school research in which they report simply stating opinions or stringing together facts. This student appears to be transforming knowledge from the sources she
has read into evidence for “what I really believe.” In terms of Bereiter and Scardamalia’s categories of written composition (1987), this student has begun to treat knowledge in a significantly more complex way than high school research generally encourages. It is significant that she describes this mode of thinking as having come about in the context of a one-to-one conference.

A number of students made reference to the fact that these conferences are structurally embedded in the course; students are required to discuss their drafts individually with the professor before being allowed to proceed, and class time is provided for these conferences. Students mentioned having received individual feedback in other classes as well, but in most cases it was a hit-or-miss affair. In many cases, students simply didn’t get around to talking to their professors:

In one of my [other] classes I had the opportunity to get feedback but because of just the way things were going I wasn't able to do it. But had I gone and talked to the professor I probably would have done a lot better.

It is significant that, in a university in which students normally take five courses each semester, this student speaks of having had the opportunity to get feedback in only one course other than the first year seminar. She doesn’t explain exactly why “the way things were going” prevented her from getting this feedback. Presumably various scheduling difficulties got in the way of setting up an appointment outside class time. By contrast, students reported that the scheduled appointments in what would otherwise have been class time insured that they received the feedback they needed before rather than after they ran into problems:

For my other classes it was not a distinctly set out time as far as, you know, classes were cancelled and you had to book during certain times to make these appointments. It was
definitely helpful to have the time to go in and talk with the professor about what was working and what wasn't.

Not every student reported a completely satisfactory conference experience. One student complained about the professor’s seeming inability to grasp what the student was trying to say to her:

I had made notes on what was going to be my final draft to highlight important things so that the time would go faster. Like I highlighted how I’d organized it and the topics of each paragraph or section, and actually she didn’t read it, she started making comments. She was like “I think you should talk about, you know, ethics and responsibility.” I’m like “If you noticed right beside it, each of these sections I have written what the topic of each of these is.” I was really disappointed because it was apparent that maybe she wasn’t really reading my work very much, and I’d even gone to this, to make it easy, just like to note it so that the time would go smoother and she could see my direction more clearly.

It is worth noting that this student came in with what she thought was going to be her “final draft,” and has highlighted its organization so that “the time would go faster.” She does not appear to have a clear idea of what a conference on a draft is intended to accomplish. Rather than coming in with a provisional draft, she has invested a great deal of time in a draft whose structure is more or less final. She has not allowed herself to take advantage of the gradually unfolding process that the three month duration of the project affords. Rather she has raced to premature closure, and is annoyed rather than enlightened when the professor suggests areas that she could expand. This experience underlines the importance of both the professor and the student viewing a draft as provisional and open-ended.

Conclusions
This study explores two connected areas of students’ research experience: their perceptions of the differences between the high school and the university research environment, and their perceptions of their own research abilities and what, if anything, has helped them meet new research challenges.

In answer to the first question, the interviews suggest that students find research at university both quantitatively and qualitatively very different from research at high school. They perceive university research projects as being not just longer and harder, but also as requiring an altogether different relationship with sources. The main marker of this difference that students see is the university’s obsession with documentation and avoidance of plagiarism.

More importantly, however, they see university research projects as requiring much more substantive evidence than high school projects. High school research projects, students report, can often be carried out with minimal reference to a narrow range of materials found in the typical high school library. They do not necessarily provide for a wide range of independent thought, and are castigated by students – from their new-found perspective as university students – as regurgitation. By contrast, university research projects expect students to have a broad familiarity with a variety of information sources including books, print journals, on-line journals, and reference materials, often blended with primary research. Students are often unsure of how to go about this process and of what they are being expected to produce at the end of it. However, it is abundantly clear to them that they have entered a very different research climate.

Nonetheless, most of the students interviewed reported finding this kind of research a rewarding challenge, and appeared to be able to rise to the occasion with some degree of confidence. In answer to the second research question, students reported at least three facets of their pedagogical experience that helped them become more confident in navigating this new environment.
Significantly, all three of these facets were built into the structure of the first year seminar. Few of the students reported having had similar experiences in any of their other courses.

First, the students interviewed for this study built a relationship with library staff over the period of their research projects. A number of them reported being personally introduced to library staff members who could help them with specific aspects of their research projects. Although some reported initial library anxiety similar to that documented in bibliographic instruction literature, they also reported that, over the course of the first semester, they gradually became more comfortable in the library and felt at least a limited sense of knowing how to find and evaluate sources.

Second, students reported that the extended project that they encountered in GNST 201 was helpful in increasing their confidence because it gave them opportunities to engage in various research activities repeatedly, with expert guidance. Students claimed that in other courses, they were frequently thrown into a research project with little explicit guidance and with little time to engage in any but the most superficial information search. In GNST 201, in contrast, they had time to become familiar with one aspect of research before moving on to the next. They could afford to cast about to some extent, trying out various aspects of their research topic before settling on a thesis and marshalling evidence for it. They could afford to make mistakes, refine their topic or their information search, and continue moving forward. They were not forced into premature closure on the topic or the information search. They also reported receiving a wide spectrum of instruction on various aspects of the research process from finding materials to writing the final paper.

Third, in a closely related finding, students appreciated the opportunities for one-on-one conferences during the developing stages of the project. A few students reported having similar
conferences in other courses, but none reported having them built into the structure of any course but GNST 201. With a few exceptions, they found that these conferences helped them see the effect of their work on an audience, and to understand the expectations of an academic readership. The conferences also helped them see research as an extended work-in-progress that takes a clearer and clearer shape as the project progresses. In students’ descriptions of their conferences, we can hear the professor taking the role of a patient, encouraging, sometimes quasi-parental figure guiding students through the intricacies of academic research – a role far different from the more familiar role of lecturer and grader.

Implications

This study has a number of implications for the design of first year seminars. Most narrowly, it suggests that academic content seminars designed along the lines of GNST 201 can be effective in helping students gain confidence in their ability to feel comfortable in a research-intensive environment. The most important features of GNST 201 are:

- an extended relationship with library staff in the context of an ongoing research project
- a research project that extends, in various phases, over the entire length of the course
- one-to-one conferences built into the structure of the course rather than reserved for students who are sufficiently proactive to request them

The study suggests that research skills should be taught in context as part of a long-term research task rather than as isolated skills such as using the library, writing a paper and compiling a bibliography. These tasks are tightly inter-related. Like real academic researchers, students must be able to weave among them as they gradually deepen their familiarity with the web of discourse that constitutes an area of study. Perhaps the most important single theme that emerges from the study is the power of teaching research skills in context rather than as separate items.
The study does not seek to answer the question of whether familiarizing students with the research process should be the main or only target of a first year seminar. That is a much wider discussion that is beyond the scope of this paper. However, if a research-intensive institution does consider it important to help students become comfortable in this environment from the first year, this study suggests that first year seminars with academic content can be an important means of doing so.

Clearly, more research is needed. The present study provides a close look at students’ experiences in only one type of academic content seminar at one institution. We need more case studies to reveal the range of possible variations on this model, to suggest which variations are most effective in meeting which objectives, and to give course designers more insights into how research processes can be taught most effectively. We also need more broad quantitative surveys that will unpack some of the distinctions which are often collapsed in extant surveys. We know that increasing numbers of institutions are using first year seminars with academic content, but we do not know how many use academic content as a basis for students’ own in-depth research projects. Nor do we know what objectives these institutions are trying to meet in designing these seminars, nor what pedagogical features are most common and what these features are intended to accomplish.

Most broadly then, the present study can be seen as an argument for bringing first year seminars with academic content out of the margins of transition literature and subjecting them to more rigorous examination. The Boyer Report has articulated a “blueprint for action” that calls on research institutions to find better ways of integrating their undergraduate populations into the research culture that defines these institutions. Large numbers of institutions are answering that
call in a variety of ways. We need to know much more about what the first year seminar with academic content can offer as a response.
References


Brent, D. (in press). Re-inventing WAC (again): The first year seminar and academic literacy. *College Composition and Communication*.


Appendix

GNST 201 Topics for 2003-04

**Alberta: Culture and Change.** This interdisciplinary seminar deals with selected historical and contemporary issues about Alberta.

**Understanding Your Roots: Research Into Communities and Families.** This course will introduce students to archival research through the study of their own family (or ethnic community’s) history. Students will collect and analyze data using a variety of primary and secondary sources, and use this information to shed light on broader themes in the fields of ethnic, religious and urban history.

**Profiles of Calgary.** This course will explore the most dominant themes in Calgary's development. The role of the Canadian Pacific Railway, real estate speculation and boosterism, housing, the city's cowtown image, the Mounted Police, tourism, and the oil and gas industry will be set against issues including ethnicity, social inequities, physical growth patterns and responses to climate to enhance a deeper understanding of one of Canada's most dynamic cities.

**Race, Ethnicity and Citizenship.** This course will explore the history and notion of citizenship in Canada, with particular reference to how it relates to race, ethnicity, and geographical origin of immigrants. It will examine how citizenship is identified in different historical and contemporary contexts and how those definitions affect the position of various groups, their sense of identity, their representation, and the multiple resistances that are generated in response to those definitions.

**The Uses of Narrative.** How do we use stories to complain, critique, confess, demonstrate, understand, connect, envision, reassure, heal? This course studies the uses of narrative in various disciplines and genres.
**East Asian Perspectives on the Environment.** This course investigates the philosophical foundations of, concrete measures arising from, consequences, and distinctiveness of East Asian perspectives on the environment. It also looks at recent environmental developments in East Asia as a demonstration of the difficulty and need of contributing to restoration and preservation of the environment, subsequently leading to consideration of whether traditional attitudes can contribute to this restoration and preservation.

**Image vs. Identity: Conflicting Representations of the Other in Canadian Cinema.** A key component of university education is the development of a critical understanding of the way in which the world is presented to us and how we create images of others and ourselves through cultural representation. This course uses the medium of film imagery to explore the Canadian construction and deconstruction of racial, ethnic, national and gender identities. The course deals with six distinct categories of identity: The American Other deals with the representation of American society; the Aboriginal Other examines the representation of First Nations peoples; the Quebec Other expresses Francophone identity; the Female Other analyzes representations of women; the Ethnic Other looks at how ethnic and racial minorities are constructed in cinema; and the Gay Other explores the portrayal of gay Canadians.