

Connected, Disconnected, or Uncertain: Student Attitudes about Future Writing Contexts and Perceptions of Transfer from First Year Writing to the Disciplines^[1]

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Abstract: Transfer, or how much knowledge from one context is used or adapted in new contexts, is a longstanding issue for researchers and teachers of writing in a variety of disciplines. Transfer is of particular concern when examining how effective first-year writing is in preparing students with a foundation for their disciplinary coursework. This article connects theories of student attitudes and motivation with theories of transfer to investigate their relationship. Data discussed includes beginning and end of semester surveys (n=153) of first-year composition (FYC) students and interviews (n=15) with students the semester after they finished their FYC course. Findings suggest that students' attitudes about their future disciplinary writing contexts and definitions of writing relate to their beliefs about their ability to transfer writing knowledge to new contexts. Four types of students are identified with regards to attitudes about future writing situations and transfer: explicitly connected, implicitly connected, uncertain, and disconnected. Furthermore, declines in the students' beliefs about the possibility of transfer occurred from the beginning to the end of the semester, raising questions about the effectiveness of pedagogies in FYC. The article concludes by introducing pedagogical techniques for fostering positive student attitudes and encouraging transfer in a variety of contexts.

Transfer, or how much knowledge students are able to apply from one context, such as first-year composition, to a new context, such as disciplinary writing, is a longstanding issue for researchers and faculty across the disciplines. Educational institutions build curricula around the assumption that knowledge transfers: from high school to college, from class period to class period, from course to course, and from the university to the workplace. However, for over a century, educational researchers working in a variety of settings have been more successful in demonstrating how transfer of learning fails rather than how it succeeds (Thorndike & Woodworth, 1901; Haskell, 2005). This failure raises serious questions about the efficacy of learning in higher education and provides ample need for more research on transfer. In fact, McKeough, Lupart, and Marini (1995) argue that transfer remains the most challenging problem for educational research today. If students are unable to apply practices, skills, and knowledge gained in one context to a new context, they have not truly learned and may continue to struggle in each new learning situation.

Across the Disciplines

A Journal of Language, Learning and Academic Writing

DOI: <https://doi.org/10.37514/ATD-J.2011.8.2.07>

wac.colostate.edu/atd

ISSN 554-8244

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Transfer is not just an issue for first-year composition (FYC) faculty; disciplinary faculty depend on writing knowledge to transfer. In fact, universities hold an institutional assumption that knowledge, skills, and techniques gained in FYC are able to transfer to other contexts—disciplinary, civic, personal, and professional. FYC is understood to provide students with functional literacy in academic prose; without successful transfer, disciplinary faculty may be forced to spend time teaching basic writing strategies rather than advanced disciplinary writing skills or other course content.

This study examines the relationship between students' perceptions of transfer from first-year composition (FYC) into disciplinary coursework and their beliefs and attitudes towards themselves, their writing, and their educational environments. The study addresses the following four research questions:

- How do students perceive the transferability of writing knowledge from FYC to other disciplinary courses and future careers?
- What is the relationship of student beliefs about writing to their beliefs concerning the transfer of writing knowledge in FYC?
- How do concepts of *forward reaching* and *backward reaching* knowledge impact perceptions of writing transfer?
- How do students' perceptions about transferability change across the course of their semester in FYC and after the course ends?

This article begins by providing a review of relevant research concerning transfer of writing knowledge, theories of transfer, and issues related to motivation and perceived course value. Next, the article discusses the method of inquiry and context for the study. Results from the study are followed by a discussion of findings. The article closes by presenting teaching strategies and techniques to facilitate the transfer of writing knowledge both in FYC and in disciplinary writing contexts. As this study will demonstrate, the attitudes that students bring with them about writing impact their perceptions of the transferability of writing knowledge; because we know transfer of learning is an "active" process, these attitudes may be detrimental to their ability to learn and effectively use prior writing knowledge in disciplinary courses.

Students' Difficulty with Transfer Across the Disciplines

Evidence for the complexity of writing transfer in FYC and across the disciplines is evident in the work done by Herrington (1984), McCarthy (1987), Walvoord and McCarthy (1990), Beaufort (2007), Bergmann and Zepernick (2007), and Wardle (2007). Nearly all of the research on writing transfer indicates that if students fail to recognize similar features in diverse writing contexts and tasks, then the transfer of writing skills will most likely be unsuccessful. Although students often have been taught writing processes and skills that would assist them throughout their educational careers, these studies show that they are often unable to draw upon that knowledge and instead perceive each situation as entirely new and foreign.

In her qualitative examination of the writing in two college chemistry courses, Herrington (1984) found that students believed that the writing tasks and required skills in each course were very different despite the many similarities Herrington found between the tasks (p. 331). Herrington also discovered that each course represented a unique learning situation where students needed to learn how to adapt their prior knowledge in order to be successful.

McCarthy (1987) drew similar conclusions to Herrington as she followed one student, Dave, through three courses across the curriculum. McCarthy writes:

As I followed Dave from one classroom writing situation to another, I came to see him...as a stranger in strange lands. In each new class Dave believed that the writing he was doing was totally unlike anything he had ever done before... Robert Heinlein's (1961) science fiction novel suggested this metaphor originally. But Heinlein's title is slightly different: his stranger is in a *single* strange land. Dave perceived himself to be in one strange land after another. (p. 234)

McCarthy found that Dave spent so much time focusing on the differences of each writing task and attempting to learn the new conventions of the discipline that the similarities between the tasks were obscured for him (p. 245-246). Similarly, Walvoord and McCarthy (1990) found that most of the students enrolled in their study had great difficulty with transfer (p. 132-134). These studies describe how students are unable to see how previous knowledge may be adapted to new circumstances both between and among disciplines; making these moments visible to students may be a key factor to successful transfer from first-year writing courses to disciplinary courses.^[2]

The findings of Beaufort (2007) align closely with those presented above. Beaufort conducted an ethnographic case study of one student, Tim, whose growth and experiences as a writer are charted throughout the duration of his college career and into the workplace. Beaufort describes Tim's experiences in a FYC class that encouraged expressive and creative writing and his difficulty in adapting his discourse to his history and engineering courses. Tim had trouble transferring writing knowledge because of the competing values in his different discourse communities and his lack of awareness (p. 66-68). Beaufort concludes that writing studies needs a better understanding of writing expertise and that transfer of knowledge is a major hurdle for student writers. She argues that writing instruction geared explicitly toward teaching transfer would serve students best (p. 149).

The work of Bergmann and Zepernick (2007) demonstrates one way that student attitudes can be problematic for transfer between FYC and disciplinary coursework. They conducted a series of focus groups with advanced undergraduate students aimed at understanding students' attitudes toward how the writing practices they learned in FYC transferred to other disciplines. Their findings included four conclusions about student attitudes toward FYC: students perceive FYC classes as personal and expressive, not disciplinary; students believed that writing in FYC and English classes adheres only to a few concrete or generalizable rules and does not abide by disciplinary standards; FYC experiences do not contribute to students' ability to write in multiple fields; and students were unaware that the purpose of FYC is to teach them how to adapt writing skills to multiple fields (pg.129-130). Bergmann and Zepernick argue that "the primary obstacle to such transfer is not that students are unable to recognize situations outside FYC in which those skills can be used, but that students fail to look for such situations because they believe that skills learned in FYC have no value in any other setting" (p. 139). Bergmann and Zepernick's findings have substantial implications for transfer, implications that will be explored with further study in this article.

Their findings also strongly connect with the work of Wardle who examined transfer in the context of first-year writing. Wardle (2007) found that students in her study "did not *perceive a need* to adopt or adapt most of the writing behaviors they used in FYC for other courses" (p. 76). She argues that activity theory (described by Russell, 1995) can help students work to generalize concepts from FYC to other areas. Wardle (2009) describes her findings in a large study on genre and transfer of writing knowledge. Like previous researchers, she found that students did not see any connection between

writing in FYC courses to writing in later coursework (p. 776). Additionally, issues of genre and purpose were conflicted for students and instructors alike, even those instructors from within learning communities. Wardle argues that in order to more effectively teach FYC, we need to encourage students and instructors to see writing in FYC "disciplinary bridges" and to facilitate a better understanding of academic genres (p. 782).

Beaufort, Bergmann and Zepernick, and Wardle's findings can help begin to explain the observations of Herrington, McCarthy, and Walvoord and McCarthy. Their research seems to indicate that students' attitudes towards writing and beliefs about FYC can be a primary barrier to successful transfer between courses. However, only Bergmann and Zepernick's study made attitudes and beliefs a primary emphasis and they did not study FYC students; this demonstrates a substantial gap in the literature. Specifically, we need a clearer understanding of the types of beliefs students hold about transferability of writing skills, what factors impact those beliefs, and how those beliefs change across the course of FYC and into disciplinary writing. The study presented in this article attempts to fill this gap by directly examining the relationship between attitudes, beliefs, and perceptions of transfer over time.

Types of Transfer

The studies above indicate that many students have difficulty seeing the similarities among writing situations; this lack of awareness translates into difficulty in transferring writing knowledge into other courses successfully. Theories of high road transfer, low road transfer, negative transfer, expectancy-value theory, and activity theory can help illuminate these issues and lay the ground for how this study makes the connection between student attitudes and beliefs and perceptions of transfer.

Low road and high road transfer, constructs developed by Salomon and Perkins (1989), help explain the role of attitudes and perceptions in the study of transfer. These context-based transfer constructs focus on the amount of effort one must exert in facilitating transfer. With low road transfer, individuals automatically engage in "well-learned" behavior, that is, behavior that comes naturally or spontaneously with no need to expend mental effort. For example, Salomon and Perkins describe low road transfer as transferring knowledge of how to drive a car into how to drive a truck (p. 117). One might argue that for students writing in their first language, grammatical, organizational, or stylistic maneuvers learned over and over are internalized (such as comma usage, parallelism, or spelling) and might automatically or effortlessly translate to any writing situation. While these behaviors were originally learned at some point, they have become so well-used and ingrained over time that using them becomes, for some, effortless.

Conversely, high road transfer involves conscious effort to abstract connections and similarities between new and previous knowledge. For example, a student might use prewriting techniques for situations that call for brainstorming that are not writing tasks—like event planning. A student would need to consciously make an effort to apply prewriting techniques to that new situation. High road transfer further breaks down into two areas important to writing instruction—forward reaching and backward reaching. Forward reaching transfer refers to the ability of individuals to anticipate future situations where they may need the knowledge and skills they are currently learning. Backward-reaching transfer takes place when an individual encounters a new situation and uses prior knowledge. Notice that with both forward reaching and backward reaching transfer, it is imperative that the individual make a *conscious* effort to either draw upon old knowledge or retain current knowledge for the future. This ties directly to student beliefs about writing and transferability in current and future contexts. Additionally, while the above theories examine how knowledge can

encourage successful transfer; previous knowledge can also interfere with new transfer tasks, causing "negative transfer" to occur (Ousman, 2008).

As Salomon and Perkins (1989) argue, high road transfer of knowledge is not automatic; learners must examine the new context and seek to make active connections between their new and previous situations and learning. Anderson, Reder and Simon (1996) writing from the field of education found that transfer is much more likely if learners are able to recognize the similarity of cues that indicate when to use a particular set of knowledge. In order to make forward reaching and backward reaching connections, learners must recognize situations where previous knowledge can be useful in order to successfully transfer knowledge (Bransford & Schwartz, 1999). These concepts of transfer apply to issues of student perception and attitudes. One of the questions that this research raises that is addressed by this study is the impact of student beliefs about future writing contexts (forward-reaching knowledge) on their perceptions of transfer.

A second pair of constructs useful to understanding the relationship between FYC and disciplinary coursework is Royer's (1986) near and far transfer. Near transfer refers to tasks quite similar from the initial learning event while far transfer refers to tasks that require much different skills from an initial learning event. From FYC to disciplinary courses, an example of near transfer might be an introductory political science class where students are required to write arguments from contemporary sources gained from library database, while a sample of far transfer might be an upper-level biochemistry class where students were required to write lab reports from their own experiments. However, as McCarthy (1987) demonstrates, similarity of task and context between writing situations does not always allow students to successfully transfer.

Expectancy–Value Theory and Student Attitudes

Another theory that can help begin to address the connection of student attitudes and beliefs toward transfer is expectancy-value theory. Feather (1969) describes expectancy-value theory as one that links the effort invested to how much value a person places on the task and their expectation of the reward. Eccles et. al (1983) and Eccles (2005) applied this model to the education by arguing that performance, persistence (how long students are willing to engage in a task), and choices made in tasks are directly related to the value students place on tasks and their expectation for educational success. When applied to writing and FYC, this theory suggests that students who do not value their FYC courses as useful for future disciplinary writing will see little motivation for exerting effort initially, and hence, the transfer of knowledge to other areas will most likely be unsuccessful (again, see Bergmann & Zepernick, 2007; Wardle, 2007; and Wardle, 2009). Conversely, this theory also implies that students who expect their course to be useful will put more effort into the course, and therefore, will learn more and likely be more successful in transferring writing knowledge. Students are more likely to be motivated and successful in their educational tasks when they perceive that what they are doing has value.

Student attitudes and beliefs about themselves, their instructors, and their classrooms have been demonstrated in the fields of education and psychology to contribute substantially to almost all areas of student achievement and interaction in a learning environment, including in the transfer of knowledge. Areas that student attitudes and perceptions influence include: academic success (Ames & Archer, 1988), willingness to seek help (Newman & Schwager, 1992), self-efficacy (Klassen, 2002), motivation (Wentzel, 1992), career choices (Hackett & Betz 1992), the ability to learn and recall information (Weldon & Melpass, 1981), writing ability (Bruning & Horn, 2000), and students' own theories and definitions of education (Nicholls, 1992).

A number of studies of writing classrooms indicate that students' attitudes can impact their perceptions about writing, their learning environment, and their ability to transfer writing knowledge. In a review of 16 studies on self-efficacy and motivation in secondary education, Klassen (2002) argues that self-efficacy, among other beliefs, plays an important role in students' ability to learn to write. In fact, many of the studies summarized by Klassen argue that instructors who work with students on writing need to be more aware of the impact that student belief systems have on writing success (p. 188-190). Students' awareness of learning on a meta-level and attempts to self-regulate their learning are also shown to have substantial impact on writing success (Graham & Harris, 2000). Similarly, Dias et al. (1999) examined the disconnect between their participants' belief about learning new genres and the larger need for students to understand the social and community norms of a new workplace setting. Gambell (1991) found that students' perceptions of writing in their major coursework were largely negative. Over half of the students in his study reported that writing was a difficult and unrewarding task and reported writing difficulties. Their difficulties included misunderstanding of audience awareness, lack of rhetorical and argumentative knowledge, lack of awareness about the writing process, and difficulty in making their own meaning from others' words and ideas (p. 424-430). Students' own beliefs about themselves and their writing impacted how they performed as writers.

Activity Theory

While traditional transfer theories focus on whether or not transfer was obtained from one situation to another by measuring learning output or the application of knowledge to new situations, activity theory or actor-oriented transfer theories focus on understanding how students personally construct their understanding of relationships across boundaries (i.e. school to work, FYC to a disciplinary course, etc) (Loboto, 2003). Royer, Mestre, and Dufrense (2005) describe transfer as "boundary crossing" or "knowledge building" where students must cross boundaries from one activity system (such as FYC) to another activity system (such as chemistry courses). Meanwhile, research by Russell and Yanez (2003) use a case study to show that issues arise when students experience contradictions in goals, values, and ways of making meaning among activity systems. Activity theory can help explain many of the findings described by transfer researchers. However, what still seems to be missing from this discussion is an understanding of how specific perceptions, attitudes and beliefs about writing impact students' perceptions of transferability of FYC content.

Although the role of student attitudes, beliefs and motivations has a clear connection to students' perceptions of transfer of knowledge in the above literature, these elements have not been explored in a single study. Furthermore, issues of students' beliefs and motivation do not appear to be central issues in mainstream writing pedagogy or writing research. The goal of this study is to begin to fill gaps in research and to enter the larger discussion of pedagogy and teaching for transfer, thus working to build a framework for transfer pedagogy in FYC and the disciplines. The next part of this article discusses methods and results of the study conducted to investigate students' attitudes and the influence of their attitudes on the transfer of knowledge in FYC courses.

Methods

This study addresses the following four questions using surveys and interviews:

- How do students perceive the transferability of writing knowledge from FYC to other disciplinary courses and future careers?

- What is the relationship of student beliefs about writing to their beliefs concerning the transfer of writing knowledge in FYC?
- How do concepts of *forward reaching* and *backward reaching* knowledge impact perceptions of writing transfer?
- How do students' perceptions about transferability change across the course of their semester in FYC and after the course ends?

The research context, data collection methods, and analysis methods used to answer these questions are discussed in detail below.

Context

This study was conducted at a large Midwestern research university with an award-winning FYC program. In Fall 2007, when the first part of this research was conducted, the FYC program offered 189 sections of first-year composition (a single four-credit course) staffed by over 150 instructors (mostly graduate teaching assistants) and taught approximately 3,600 students. The FYC program is designed to combine flexibility in instructor's teaching choices with consistency in quality writing education through a "syllabus approach" system where instructors select from a variety of approaches to teaching writing. The FYC course at this university is a single semester, four-credit course, which includes built-in conferencing time with students and one day a week in a computer lab classroom.

Eight sections of FYC were included in this study, including two learning communities (computer graphics technology and nursing, described in the next paragraph) and six sections of the standard FYC course taught using the following three syllabus approaches: rhetorical situations, composing through literature, and multimedia writing. These diverse sections were selected to represent different teaching approaches, instructor philosophies, and students.

Learning community sections enroll students from the same or similar majors and include a linked disciplinary course, so that the students have two classes together. The two learning communities enrolled in this study, computer graphics technology and nursing, were taught by two Ph.D. students in rhetoric and composition and were linked to a disciplinary course taught by a disciplinary expert faculty member. The university facilitates a meeting between learning community faculty before the term begins; this collaboration between the FYC and disciplinary instructor happened for only one of the two sections enrolled in the study (nursing). The instructor in computer graphics technology (CGT) did not provide any disciplinary expertise to the linked FYC course.

Data Collection

Eight sections (eight instructors and 153 students; approximately 20 students per course) were enrolled in this study. Instructors were recruited via an email sent to the FYC instructor listserv prior to the start of the Fall 2007 semester. All instructors (six female, two male) were Ph.D. students or candidates in the English department with at least three semesters of experience teaching FYC prior to the start of the study.^[3] Instructors enrolled in the study had a range of teaching experience in higher education and in the FYC classroom including corporate training, business/technical writing, creative writing, literature, and secondary English education. The range in FYC teaching experience for instructors was between three to twelve semesters; the mean amount of experience was 7.6 semesters for college-level instruction and seven semesters for FYC courses. Instructors came from

the following programs: rhetoric and composition (four instructors); theory and cultural studies (one instructor); poetics/creative writing (one instructor); and literature (two instructors).

All students in the study were asked to participate in two short surveys that focused on attitudes toward writing, perceived application of writing skills/transfer, and rhetorical awareness (see Appendix A for survey instruments). This part of the study employed a repeated measures design where individual student responses were linked between the beginning and end of the semester allowing for direct comparison and an examination of changes in perceptions over time. The survey included qualitative and quantitative questions and was pre-tested in the Spring of 2007 on a group of twenty FYC students. Students were surveyed within the first two weeks of the Fall 2007 semester (with 153 respondents) and surveyed again within the last two weeks of the Fall 2007 semester (with 135 respondents ^[4]). A similar survey instrument was used for both surveys; however, the end-of-semester survey had revisions to questions based on progress in the course and additional qualitative questions.

The survey included 68 (43.8%) female respondents and 87 male respondents (56.1%), a ratio representative of the larger student body where the study took place. Students participating in the study came from a variety of majors. The two learning community FYC courses in the study had nursing students (20) and computer graphics technology (CGT) students (20). All other courses contained students from across the disciplines with the highest numbers of majors coming from engineering (31 or 20%), medicine (32 or 20.6%), and science and technology (39 or 25%).

During the second survey, students were asked to consent to provide their email address for follow-up interviews. Approximately 90% of students enrolled in the survey portion of the study provided their email address. In an attempt to reduce selection bias, the researcher used a random number generator to choose four students from each section and contacted them with the invitation to participate in the interview. The interview invitation emails were sent out six weeks before the end of the Spring 2008 semester, the semester after they finished their FYC course. Of the students contacted via email, fifteen student interviewees agreed to participate (two students from seven of the eight sections in the study, and one student from the eighth section). Seven female and eight male students were interviewed individually the semester following their FYC course students (see Appendix B for interview script; some questions adapted from Bergmann and Zepernick, 2007). Students were asked a series of questions on transfer and attitudes towards writing including: beliefs about transfer, definitions of "good" writing, experiences writing in other courses, and knowledge of future writing contexts. Twelve of the fifteen students were first-year students finishing their second semester at the time of the interviews; two were second-semester sophomores; and one was a second-semester junior. Interviewees came from a wide range of majors including engineering, liberal arts, medicine, science and technology, and business. Each student was interviewed for approximately 45 minutes and was paid \$15 for his or her time.

Transfer Questions

At both the beginning and end of the semester, the surveys used the following statements to measure students' perceptions about transfer:

- "What I will learn/have learned in my FYC^[5] course will help me with other courses."
- "I expect my FYC course to prepare me for college writing" (*beginning of semester*); "My FYC course has prepared me for college writing." (*end of semester*)
- "I expect my FYC course to prepare me for writing in my major" (*beginning of semester*); "My FYC course has prepared me for writing in my major." (*end of semester*)

- "I expect my FYC course content to help me with writing beyond college."
- "I will be able to use the information I learned in this course in many other college courses."
(asked at end of semester only)

These questions were used repeatedly to help demonstrate the various ways that students conceptualized transfer and how perceptions of transfer change over time.

Analysis

Because this study included multiple datasets, a grounded theory technique was employed to understand and discover patterns within the data. All data was analyzed using themes and patterns derived from the research questions and patterns that developed during the grounded theory analysis. In its basic form, grounded theory, developed by the sociologists Glaser and Strauss (1967), is a theory of research analysis and epistemology that emphasizes using the data itself to generate both theories and categories for analysis rather than applying a pre-existing theory or framework to the data. Although a substantial amount of debate about grounded theory has taken place between Glaser and Strauss since their initial joint publication, the basic concepts of their work are still useful and pertinent to an exploratory study such as this one.

Grounded theory analysis moved from the micro level, looking at individual students and patterns, to the macro level, examining the larger themes within the data. Each data set was first analyzed separately at the micro level and then patterns were compared between the different datasets for triangulation. For example, to analyze the qualitative survey questions, I categorized and counted the responses to individual questions. After extensive analysis, categories emerged concerning their definitions of writing, FYC classes, and so forth and the analysis moved from the micro to the macro level and I compared datasets.

Additionally, inferential and descriptive statistics were used to identify patterns in the quantitative responses. A repeated measures t-test (two-tailed) was used to compare beginning-of-the-semester to end-of-the-semester responses on transfer-related questions. Students who did not take both surveys were omitted from comparisons between the beginning and end of the semester.

Study Limitations

Although all attempts were made to design an accurate and meaningful study, the study design and context imposed several limitations. First, the writing program from which this data is collected is unique and is not representative of all programs. With its syllabus approaches, year-long instructor mentoring, and instructor populations, without data from multiple institutions, the generalizability of findings is uncertain. However, the students in the study represented fairly typical "millennial" students: career-oriented and goal-focused. Millennial qualities are shared by a substantial portion of students enrolled in higher education today (Elam, Stratton, & Gibson, 2007). Additionally, study findings mirror and confirm similar findings reported in the literature, especially the work of Wardle (2007), Wardle (2009), and Bergmann and Zepernick (2007). The findings reported in this study also intersect and overlap theories of transfer, learning, and motivation by decades of research from several fields of inquiry.

Perhaps the most challenging limitation is that the study results are based on self-reported data; that is, students' perceptions of transfer rather than some external transfer measurement. Readers familiar with the transfer of learning literature will quickly recognize that this problem of "measuring transfer" has a long history (Smit, 2004). A commonly held assumption is that self-reported data can

be inaccurate, flawed or misleading. However, self-reported data remains a necessary method of collection for studies focusing on attitudes or beliefs—the focus of this study. In *Qualitative Interviewing: The Art of Hearing Data*, Rubin and Rubin (2005) describe how qualitative interviews are best for learning about issues that are not simple or brief, but rather require in-depth explanation, including what people think or feel about issues (p. 2-3). Transfer of learning, with all of its complexities, falls into this category. In cases of research that focuses on students' attitudes, self-reported data gained through surveys and interviews is one of the best means available for data collection. What this study provides is evidence concerning the beliefs and attitudes of students towards transfer and represents a first step in this direction.

Another limitation is that because the surveys were not conducted before the interviews, I did not ask the survey respondents about their definitions of writing or the importance of writing to them. The findings relating to definitions of writing came through the grounded-theory analysis stage, so these results are limited to the fifteen interview respondents.

Finally, although the results in this study are focused on students and their beliefs and attitudes, by no means are these attitudes the "fault" or sole responsibility of the students. Rather, the responsibility for teaching for transfer and helping to expand students' definitions of writing should start with writing program goals, WAC goals, and instructors' pedagogical approaches. As discussed in the conclusion of this article, shifting students' thinking and increasing their knowledge about writing in their future careers is teachable and deserving of our attention.

Results

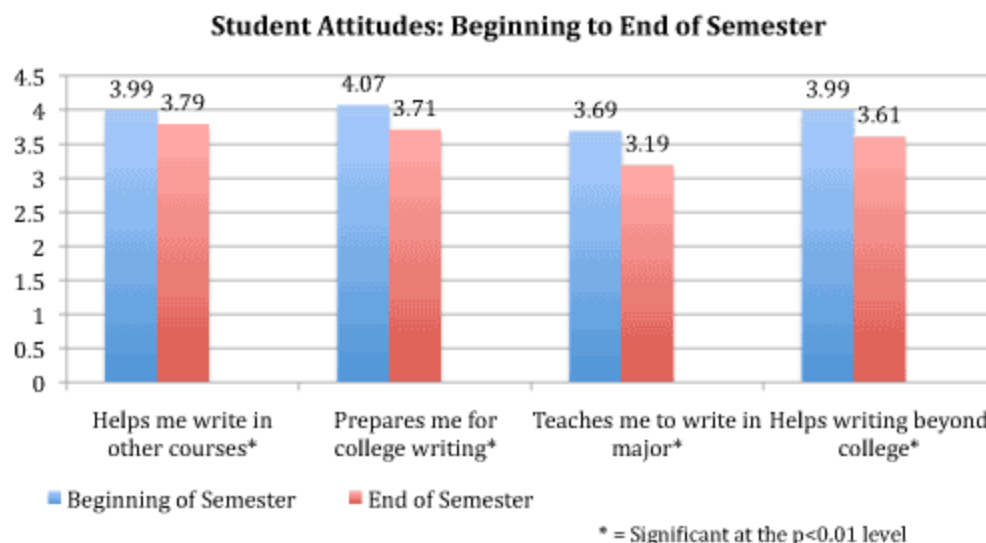
Results indicate four major findings relating to the research questions: student beliefs about transfer decline over time; students' attitudes concerning future writing fit four categories; students' retain limited definitions of writing; and students' expectations of future writing contexts.

Student Beliefs About Transfer Decline Over Time

While the beginning-of-the-semester surveys demonstrated that students were largely hopeful about the transferability of the material learned in FYC, their end of semester survey responses reveal views that are significantly less positive about the transferability of FYC to the disciplines, in their major, or to the workplace.

At the beginning of the semester, students responded to the four transfer measures with an average of "agree" (or a response of 4 on a Likert scale) in all areas. At the end of the semester, when surveyed a second time students in the study demonstrated a significant decline in perceptions towards the usefulness and transferability of FYC. These declines took place regardless of major, type of course, or instructor.^[6] Figure 1 includes the mean values for the following statements, asked at the beginning and end of the semester: what I have learned in my FYC course will help me with other courses^[7]; my FYC course has prepared me for college writing^[8]; I expect my FYC course content to help me with writing beyond college^[9]; my FYC course taught me how to write in my major".^[10]

Figure 1: Comparison of Mean Student Responses



Furthermore, as described in the next section, of the students surveyed, when asked about the applicability of FYC's content beyond the course, nearly half (45.9%) report uncertainty or do not see the applicability. These results are consistent with Bergmann and Zepernick's (2007) findings concerning the attitudes about FYC for juniors and seniors, and demonstrate substantial implications for FYC and teaching for transfer.

Student Attitudes About Future Writing Fits Four Categories

Four categories of student responses emerged in the survey data and interview responses representing students' attitudes about their future writing contexts. Students who saw themselves as writing in their futures were much more likely to respond with more positive attitudes towards transfer of learning and the usefulness of FYC than those who did not.

The statistics for the responses below come from the following survey questions from the end of the semester ($n=135$): "How much of what you have learned will help you in your other courses? Why is this so?" and "Do you think any of this course's content will help you with writing beyond college? Why or why not?"

Explicitly connected students are able to connect FYC with anticipated future writing situations and anticipate transferability. These students reported internalizing specific information about writing, genres, and contexts they expect to need to write in the future. Explicitly connected students represented 13.3% of students surveyed at the end of the semester.

Implicitly connected students are those who value writing "in general" and therefore anticipate transferability of FYC to other contexts. These students may not have a clear sense of how they will be writing the future, but they at least know that writing is important and useful. Implicitly connected students represented 40% of students surveyed at the end of the semester.

Uncertain students are unsure of the usefulness of the course or transferability. These students do not know (or do not care to know) where and when they will be writing in the future. Uncertain students represented 29.1% of students surveyed at the end of the semester.

Disconnected students are not able to connect FYC with anticipated future writing situations and devalue the course. These students foresee little or no writing in their futures—or at least, little or no writing similar to genres experienced in FYC. Disconnected students represent 16.3% of students surveyed at the end of the semester.

Of the disconnected students, five indicated that they did not believe they ever would have to write again, five students indicated that they had learned nothing in the course, and 12 students indicated that the course content was too different from the writing they had to do in their futures, making it entirely unhelpful.

Of the 135 students that filled out the end-of-semester survey, 45.9% fell into either the uncertain or disconnected student groups—meaning unsure of the transferability of the course or felt the course was not useful to them. Of the student interviewees, 60% (9/15) were uncertain or disconnected.

Students' qualitative responses in the surveys and interviews suggest that student beliefs about transfer depend largely on how much forward-reaching knowledge students have or can anticipate about future writing contexts. The following are representative student responses from each of the four categories.

Explicitly connected students are able to provide specifics about future situations where they may need writing skills from first-year writing; while *implicitly connected* students suggest that writing is useful regardless of one's major or future career skill and make no attempts to connect it to particular disciplinary contexts.

Explicitly connected sample responses:

"Often in engineering we will have to do research and support it with evidence which is what we are doing now [in this course]." – Engineering student

"If I become a vet or wildlife biologist, credibility is key. Many times the only way a person can judge that credibility is through your writing so it is obviously very important." – Wildlife biology student

Implicitly connected sample responses:

"I think an English class should be able to help you write no matter what the major is." – Pre-vet student

"The skill of writing is universal. It's a tool that all will need in the future." – Sociology student

Responses from *uncertain* students indicate indecision about the usefulness of the course or their future writing contexts while responses from *disconnected* students identify students who do not believe FYC writing knowledge is useful. These groups include students who do not foresee substantial amounts of writing in their own majors, students who do not foresee needing to write in their future workplaces, and students who are already cognizant of the substantial differences between genres learned in FYC courses and writing in their own disciplines.

Uncertain sample responses:

"Maybe but maybe not b/c I'm going into graphic design." – *Computer Graphic Design student*

"Probably not, but I am not sure because I don't know how much writing I will do beyond college." – *Engineering major*

Disconnected sample responses:

"My major is science based, so most of writing comes from what I learn or find out rather than what I believe." – Environmental Health Science student

"My major will require more formal writing and report writing which this class will cover little to none of." – Civil Engineering student

"I don't plan on writing beyond college." – Nursing student

The student interviews revealed more detail than the surveys about why students may fit into particular groups or hold these beliefs about writing.

In the interviews with implicitly and explicitly connected students, a strong consensus emerged concerning forward-reaching knowledge (Salomon and Perkins, 1989). These students felt that material that directly related to their future writing contexts (in particular, their professions after leaving college) was what they were the most likely to retain and transfer. If students were unable to make these direct connections, then they said they were less likely to retain and transfer knowledge. Here are three interview segments that best illustrate this finding:

"I tried my best in that class, I turned in every assignment, I came; but I just didn't feel like it was useful to me...That ethos, pathos, logos, I know I'm never going to use that again. When am I going to use that? But maybe like the movie maker and the business cards because I'm going to have a business someday and I'm going to use that so, I kept those concepts and techniques... for example there's people over in Africa, you know they're starving but you know that it has nothing to do with you. You're not worried about it. Not saying that you're not worried about it, but at this moment in time, it doesn't affect you. It's not on your mind. It's just like [FYC]. It doesn't affect you, so why be worried about it? --Julie, Animal Science

"I have known I wanted to be an engineer forever... I knew I was like well, my teacher always said that this was a part of English that wasn't as widely used. I mean obviously if you're an English major you're going to have to know this. But, since I knew I was going to be an engineer I was like well it's not really that big of a deal. Once I am out of this class I'm basically done with that part of English so I wont worry about it anymore...But like some things, like we wrote a film analysis. And I was like that probably not going to help me in engineering. I mean it was cool to do, and I didn't mind it but I was like it's probably not going to come up ever again, so I'm done with it. – Sandy, Civil Engineering

Researcher: ...Teachers in math and science they see what they call a box under the bed model. Which is when they ask students to recall information in a currently class that they learned in a previous class. What they find is that students metaphorically take what they learn each semester and put it in a box, under the bed instead of trying to make connections and seeing how things they have learned in other classes apply to other situations—

Aaron: It's like, "Burn everything!"

Researcher: I'm wondering if students have the same kind of thing happening with their

writing classes.

Aaron: Probably. Yeah, it's pretty much the same thing because once I'm done with English I'm like, "Ok I don't have to do any more writing. I don't care." – Aaron, Computer Graphics Technology

When I asked students what would help prepare them best and aid in transferability, students overwhelmingly responded that they'd like to see courses that provided more forward-reaching knowledge through direct connections to future writing situations. Here are two such sample responses:

Researcher: If you could describe the sort of course that you thought, in terms of writing, would prepare you the best, what would that course look like?

Laura: I guess it would be focused on CGT [computer graphics technology] and what kinds of writing you would have to do in that, and then focus, I don't know, I've always thought that grammar was very important, I know I was talking about that a lot.

Researcher: That's fine.

Laura: I mean, yeah, that kinds of stuff that we would have to do in the field with reports and records, I mean I've never worked in the field so I don't know what kinds of stuff we'd have to write either. – Laura, Computer Graphics Technology

Keith: I mean students are always wondering how learning one thing will apply to their future or whatever. You always hear how kids are always like I will never use this later. So I think if a professor shows us and applied it directly to an assignment or like in a future job than I think kids would really use it." – Keith, Professional Writing

In my observations of these courses (Driscoll, in preparation), I noted that instructors covered many general principles such as audience analysis, genre analysis and conciseness, principles that seem initially transferable into professional fields and that instructors all believed were transferable. However, students in this study make strong assumptions about FYC based on forward-reaching knowledge, in some cases, reported that they purposely "tossed" or "burned" information learned in the FYC courses based on what they think they will need in the future.

Students' Definitions of Writing and Good Writing

One possible explanation for the four categories of student attitudes, the high amount of students in the Uncertain and Disconnected groups, and the declines in perceptions of transfer across the semester can be addressed by examining students' definitions of "writing" and "good writing" in the interviews. Interviews with students revealed that their definitions of writing and good writing were fairly narrow and largely defined by their experiences in literature-based English classes in high school and middle school. Although six of the eight instructors (75%) enrolled in the study did not use literary analysis or literary texts in their FYC curriculum, students in the study articulated definitions of writing that are limited to those commonly promoted in literature-based English classes—essays, book reviews, literary analysis papers, and annotated bibliographies, for example.

Students interviewed had rather cohesive definitions of "good writing" when asked during the interviews. The 15 student students described only eight different facets of good writing, including that good writing be clear (8 responses), interesting (8 responses), on topic/gets point across (5 responses), grammatically correct (4 responses), organized/flowing well (4 responses), conveys message to audience (2 responses), creative/original (2 responses), and informative (1 response).^[11]

Some students reported that they did not see any distinction between qualities of good writing in different contexts. To provide a better idea of students' definitions of good writing, three example responses from the interviews are provided below:

"Something that clearly states their position on something. Something that catches the attention but isn't too wordy. Getting rid of that stuff. I call it fluffy. I would just say something that is clear, to the point and catches the attention." – Brianna, Pre-Pharmacy

"Good writing to me is something that's going to keep me into something that's going to keep me wanting to read it, something that catches my eye." – Julie, Animal Science

Tom: Good writing... I would say something that expresses the ideas of the writer clearly; just basically get the point when they're telling you what's going on.

Researcher: Do you think that the definition of good writing changes based on if you're in, say, an English class versus your major classes?

Tom: No, not really. – Tom, Agribusiness management

Two issues stand out about these student definitions of writing: first, the definitions across all of the interviewees are quite similar and nearly all lack a rhetorical or disciplinary understanding of writing (even when that was taught in their FYC course). Second, nearly all students agree on the top three or four elements that make writing "good," elements that demonstrate a set of underlying belletristic values about writing. In the interviews, students were asked where they had learned about good writing and the rules of good writing. Fourteen out of 15 (or 93.3%) students said they learned in high school, usually describing an advanced placement (AP) English or literature course or a particularly influential English instructor who helped them become a better writer.

The idea that writing be interesting or creative suggests a romanticized way of viewing writing rather than a more rhetorical definition focusing on the differing purposes of writing based on context and audience. From my observations of classrooms enrolled in this study^[12], the majority of the instructors were not following a belletristic definition of writing in their courses but rather a rhetorically focused, audience-centered one. Because so many students reported learning about good writing in high school, it is plausible that these high school English classes are contributing more to these definitions than FYC or their introductory disciplinary coursework.

Furthermore, students' definitions of "writing" itself help illuminate some of the challenges with transfer reported in the surveys. At the beginning of the interviews, students were asked to describe the kinds of writing they do at work, at home, at the university, and for pleasure. Through this series of questions, students revealed very limited definitions about writing. When the students talked about their writing for the university, they described their experiences in FYC and occasionally the outline writing for their speech communications classes. Students associated the word "writing" with traditional genres—essays, researched papers, term papers, and bibliographies. They were less likely to describe "writing" as including disciplinary modes, such as short memos, lab reports, etc, even when they later revealed that they were "producing" these documents. After initial questioning, I was able to learn that, in many cases, students were engaging in much more writing than they initially described. Student responses are displayed in Table 1.^[13]

Table 1: Student Beliefs toward Writing in FYC and the Disciplines

Belief Expressed by Student	Percentage of Students (n =15)
Disciplinary writing is not writing ^[14]	40%
Disciplinary writing is a very different kind of writing than FYC	40%
No differences between disciplinary writing and FYC	13%
Only wrote in FYC class	6%

It is important to note that students who believe that disciplinary writing is "not writing" were primarily enrolled in scientific, technical, and professional majors including environmental science, animal science, agribusiness, computer graphics technology, undecided, and pre-pharmacy. Those who believe that disciplinary writing is very different from FYC include four from engineering, one from medicine, and one from computer information technology. The two humanities students did not see any differences between writing in FYC and writing in their discipline. Finally, one of the science students said she only wrote in her FYC class thus far and had no comparison. From this data, it seems that students in scientific and technical fields perceive more distance between their FYC course and disciplinary writing.

As the table above reveals, "writing" to 40% of the students interviewed does not include texts like lab reports, documentation, memos, instructions or other technical/professional documents. Here is an interview segment that illustrates this issue:

Veronica: I haven't had to do a lot of writing yet. I think English is probably one of my first papers that I have written here at [university] because I am a science major. All of my courses are mostly science based.

Researcher: And you don't have to do any writing in those science courses?

Veronica: No.

Researcher: Do you have to do lab reports or anything like that?

Veronica: Well, lab reports but I don't think that's really writing. I think that is about it though... And now I am writing speeches so I guess that counts as writing. – Veronica, Environmental Science

Another 40% of the students interviewed did allow for a definition of writing to include things that were not papers but were quick to set those types of writing apart from writing in first-year writing:

Researcher: What about your other engineering classes, you mentioned that you did some reports. Can you be more descriptive—what were you writing about?

Matthew: I guess they're...not really writing. Just probably chemistry, lab reports.

Researcher: Somebody [another student interview] was in engineering and they were describing these short little paragraphs you have to write describing what you have done or things like that.

Matthew: In Engineering 126 we had to write fake memos to clients and how to solve their problems and that kind of thing. – Matthew, Aeronautical Engineering

Researcher: I'd like you to think about the kinds of writing you do in the classes you've taken at [University]. First of all, what kinds of writing are you doing in your major classes?

Kirk: Mostly there's not really that much writing in my classes like my major classes. It's basically just code I think so it doesn't really pertain.

Researcher: Do you do documentation or anything like that?

Kirk: We do have some reports on what we did and usually they give us an example of what they'd like. How they want it set up. Like a[n] introduction to it, explanation of what we did and that's sort of part of the lab and there's usually three parts to the lab, there's not really anything that we use English I think. – Kirk, Electrical and Computer Engineering Technology

The findings reported in four areas: changes in belief over time, four categories of student belief, students' limited definitions of writing, and students' expectations of future writing contexts have substantial implications for transfer and pedagogy, as described below.

Discussion

Previous research has demonstrated a potential connection between transfer of learning and student attitudes, a connection that has been explored in this study through an examination of students' perceptions of transfer and their beliefs about writing. The results have indicated several troubling findings: First, across the board, students' perceptions about transferability of FYC content significantly decline from the beginning to the end of the semester in FYC. Second, nearly 50% of students in the study fall into the disconnected or uncertain categories, meaning they are uncertain of the amount of writing or do not believe that they ever have to write again, and all four categories seem largely dependent on their perceptions of future and disciplinary writing knowledge. Third, these results may be due, in part, to students' limited definitions of writing, likely traceable to their high school experiences, and or experiences in a curriculum where most writing completed was in typical English/FYC genres. In this section, the implications of these findings will be discussed, and then teaching methods for addressing study findings will conclude the work.

The relationship between the first two findings—the declines over time and the large amount of students who are unsure of or do not see the applicability of FYC in other situations at the end of the course—is worth exploring. Taken in isolation, the declines over time in perceptions of transfer may be explained simply by saying that students have unrealistically high expectations for a single FYC course to meet. However, taken with the finding that nearly half of students surveyed at the end of the semester (and 60% of students interviewed) are unsure of or see no value in the course these declines are of deeper concern. What effects do these detrimental attitudes and declining expectations have on students' learning experiences in FYC and in the disciplines? As discussed in the background and significance section, evidence from the fields of psychology and education indicates that students' attitudes and sense of self-efficacy have strong impacts on what they learn (Eccles 1983, 2005). Rather than simply accepting that students' beliefs about the usefulness and transferability of their course will decline over time, or that close to half of them will fail to understand or see no value in the course once they leave, faculty across the disciplines should begin to think about how these beliefs can be shifted to better serve the educational environment. Can faculty in FYC use these expectations to their advantage in some way at the start of FYC? Can faculty address these issues in disciplinary writing contexts through explicit instruction? Can faculty prevent the decline in expectations over time? It is clear that we need to address these attitudes about the usefulness of FYC and the limited definitions of writing in the disciplines. Failing to do so has

potentially serious ramifications for writing instruction and transfer in higher education. Suggestions for how to address the questions raised here are included in the final section of this article.

The findings about the limited definitions of writing also have substantial implications for teaching FYC and disciplinary courses. It is important to note that by the time the interviews were conducted, the fifteen students had finished their FYC course and begun their disciplinary coursework, many already engaging in disciplinary writing tasks (although not all saw them as "writing tasks"). The fact that over half of the interviewees fell into the disconnected or uncertain categories and that 40% of them did not see the various kinds of disciplinary writing as "writing" provides additional evidence on the continuing difficulties that students have with transfer, and confirms findings by Herrington (1984), McCarthy (1987), Beaufort (2007), and Wardle (2007). If students do not see the disciplinary writing they are doing in courses outside of FYC as "writing," they will probably have difficulty in transferring useful writing knowledge and in developing more complex rhetorical skills in disciplinary courses because they are not able to use, adapt, or build upon previous knowledge. Whenever students enter a new activity system that has divergent genre, rhetorical, or audience expectations, it may be that they are unable to interpret the requirements of that system because of their limited definitions of writing.

Additionally, the four types of students described in the results can be understood using Salomon and Perkins' (1989) discussion of transfer, specifically, concepts of forward-reaching and backward-reaching knowledge within the domain of high road transfer. Implicitly connected students, explicitly connected students, and disconnected students are drawing upon forward-reaching knowledge, or what they think they know about their future writing contexts. This may be knowledge they gain based on past experiences, knowledge they gain from their first semester as college students in a major, or simply assumptions about future professional activities. For example, some computer graphics technology majors in the study reported in interviews that because they will be graphic designers and animators, they believe they will never have to write. Of the four student groups, the uncertain students are the only ones that seem to lack some sense of forward reaching knowledge. The other three types of students possess forward reaching knowledge, but this knowledge may be incomplete or misinformed.^[15] How students interact with forward reaching knowledge seems to impact their views on the transferability and usefulness of the course. While the surveys and interviews did not reveal where this forward-reaching knowledge comes from, it is very clear that this knowledge, accurate or inaccurate, exists and that it is impacting student attitudes about transferability.

The focus of students on perceived usefulness in a future career also supports the work of Henderson-King and Smith (2006). These researchers identified ten motivational factors in students' decisions to attend a university. The top factor in their study was work-related, with students citing job opportunities, developing useful skills, and preparation to enter a profession as key motivational factors (p. 217). While it is clear from their study and the results presented here that multiple motivational factors are at play, students' focus on career preparation can illuminate why the four categories above are dominant.

These findings also align Expectancy-Value theory (Feather, 1969; Eccles 1983, 2000) and high road transfer (Salomon & Perkins, 1989). For disconnected and uncertain students, lack of direct connections to future writing and definitional issues with writing make them less likely to perceive their FYC courses as having value. Expectancy-Value theory predicts that these students will not be likely to exert the effort necessary for transfer because they have no value in the task or in the reward. "Willingness" is a key term here, and helps us better understand the motivations of the students in these four groups. These findings connect with research conducted by Bergmann and Zepernick

(2007) and Wardle (2009), whose students likewise demonstrated issues with effort and motivation in their beliefs concerning FYC.

Expectancy-Value theory and issues with students' willingness to engage in effort to facilitate transfer leads back to Salomon and Perkins' (1989) high road transfer. Salomon and Perkins argue that for high-road transfer to occur individuals must have "mindful abstraction" or the metacognitive mental effort and willingness to generalize from what they have learned to apply knowledge to new situations. Disconnected students in the interviews and surveys explicitly said that they did not retain what they learned because they didn't think they ever had to write again, or they saw no connection between their coursework in FYC and their disciplines/careers while uncertain students were unsure of the transferability of FYC to future writing courses. Students in these categories report, in some cases, consciously "tossing" or "burning" writing information gained in FYC rather than retaining it in their minds. Explicitly connected students enrolled in the study, however, were able to see direct connections and reported making attempts to retain and use at least some of what they had learned in FYC. If students are never taught to make these direct connections between contexts by both FYC and disciplinary faculty, they may never engage in the kinds of mindful abstraction necessary for high road transfer to occur.^[16]

Beyond the findings that relate directly to attitudes and high road transfer, the study results also suggest a connection between student attitudes and their interpretations of the contexts or activity systems in which transfer can take place. In particular, some students' limited definitions of writing and beliefs about their future contexts reveal problems for far transfer as described by Royer (1986). Far transfer refers to domains or activity systems "further away" from the original learning context, such as courses in the sciences or graphic design in comparison to a humanities-based FYC course. Although many similarities in writing contexts exist between domains, that so many students saw no relationship between contexts is troubling for transfer. In both the surveys and student interviews, students, especially those in the sciences and technological fields, discussed their concerns about the distance between disciplinary contexts and writing in their FYC course. However, students who had very positive views about writing were more likely to see how their FYC course may impact both near and far contexts; these students think that any writing experience will help them with some writing in their futures.

Additionally, negative transfer, or when previous learning interferes with new learning or transfer tasks (Osman, 2008) is present in very limited definitions of writing that students expressed. These writing definitions were likely derived from their long-term experiences being exposed to traditional genres of writing in high school English courses. Even though many students in the study experienced rhetorically focused or learning community courses that differed substantially from a traditional literature-based curriculum, the beliefs of students concerning the features of writing classes and definitions of "good writing" were still quite limited. The ramifications of students' limited views of writing classes have substantial implications for transfer in FYC and disciplinary courses.

If students define FYC courses as only "literary" (regardless of whether or not the content in their courses is literary), as both my study and Bergmann and Zepernick's suggest, their definition is likely to negatively impede the useful, transferable content that FYC can provide. Consider the different assumptions that literary analysis and a rhetorical view of writing contain for approaching a writing situation: Literary analysis is used in the study of literature. The tools of literary analysis have been designed for a particular set of disciplinary circumstances, specifically, interpreting and analyzing works of fiction—poetry, plays, short stories, novels, films, and so forth. Rhetoric, however, brings a very different set of assumptions to the situation: As Aristotle said, rhetoric is "the faculty of observing in any given case the available means of persuasion" (*On Rhetoric*, Book 2, 1356a). Therefore, rhetoric is potentially applicable to every field, as we see in sub-fields of Rhetoric and

Composition: rhetoric of science (Harris, 1997), public rhetorics (McDorman & Timmerman, 2008), medical rhetorics (Segal, 2005), and so forth. Furthermore, Graff (2010) demonstrated that rhetorical analysis can facilitate transfer of learning to new writing contexts. In other words, students seeing FYC courses and writing techniques as only literary or applied exclusively to "English writing" possibly *inhibit* their perceptions about the transferability of the course and, likely, their success in transferring writing knowledge in the future. These limited definitions may contribute to students' attitudes about transfer and also to their ultimate success in transferring knowledge to new circumstances.

Study findings, including declines and attitudes about transferability, the four categories of student belief, students' limited definitions of writing, and students' expectations of future writing contexts, have the potential to impact all levels of college writing instruction, both for faculty teaching FYC programs and for faculty teaching writing in the disciplines. Faculty from across the disciplines depend upon FYC to teach students basic skills in academic writing; failure of students to transfer these skills means that faculty will spend more time re-teaching material that students have not been able to successfully transfer. The question becomes—how can we more effectively approach our teaching to show students how course content within first-year writing is applicable to other disciplines?

Teaching for Transfer

A critical aspect of transfer is the quality of the original learning that takes place: specifically, how easy or difficult it is for students to recall information and how motivated they are to learn in the first place. Studies conducted by Beck and McKeown (1983) and Hasselbring, Goin, and Bransford (1988) suggest that a substantial portion of successful transfer begins in the original learning context and argues that successful transfer is facilitated more readily through material that is easier to learn. If we combine these findings with those in the motivation literature concerning how motivation impacts students' ability to learn and recall information (Eccles 1983, 2005; Weldon & Melpass, 1981) a more complete picture emerges about the role of creating a learning environment that is encouraging, directly applicable to students, and connected to students' future learning contexts.

The following six suggestions, derived from this study and related work, are general enough to be adaptable to multiple teaching approaches and philosophies about writing instruction. These suggestions can apply at all levels of writing instruction, including disciplinary writing courses and FYC. In addition to individual classroom practices, suggestions for faculty development and mentoring of new teachers are also provided.

1. *Encourage students to engage in metacognitive reflection about their writing and learning.* Research on teaching from a variety of fields argues that a metacognitive approach to teaching—that is, one that asks students to become aware of and monitor their learning processes, strategies, and learning contexts—will substantially assist students in transferring writing knowledge into disciplinary coursework. This metacognitive approach can be closely aligned to the use of reflection in learning to write. Geisler (1995) suggests that in order to better integrate writing and learning, we might "reinvent general education" (118) to negotiate between disciplinary (expert) and general (lay) knowledge. The National Research Council (1999) argues that using a metacognitive approach to teaching allows students to transfer knowledge better across the board—including in writing situations (55). Metacognition includes students' ability to critically reflect on and make connections to their past and future writing contexts and also reflects their ability to monitor their own growth as writers. This allows students to potentially get beyond the "disconnected" or "unsure" attitude groups and instead

understand connections between types of writing and writing skills. Palincsar and Brown (1984) and Pressley and Afflerbach (1995) demonstrate that metacognition helps facilitate transfer of literacy knowledge to new situations. The idea of metacognition also connects directly to theories of *high-road transfer* discussed above.

Beaufort (2007) makes a suggestion similar to this first point, encouraging teachers to make explicit connections between the new assignments and previous skills, to ask students to keep a process journal, and to be mindful of how grading rubrics can reinforce concepts over the sequence of assignments (pp. 182-183). In the FYC curriculum that I collaborated on with Beaufort (which appears at the end of her book), we asked students to use a literacy autobiography to examine the discourse communities that they currently belonged to, helping them become more aware of their own literacy practices and discourse communities and promoting reflection.

In addition to Beaufort's suggestions, I encourage teachers to work in multiple ways to build metacognitive reflection into their courses and encourage students to be explicit and direct in understanding their learning processes using reflective activities. One reflective activity is asking students to complete a reflection piece for each assignment in which they are asked to make connections and reflect upon their learning and writing process. Students can complete the course with a final reflection paper that connects course concepts to their other coursework and anticipated writing needs. A second reflective activity that encourages metacognition is to ask students to respond to a series of questions at the start of a new writing assignment: What knowledge, skills, and/or information do I have that can help me complete the assignment? What kinds of writing have done previously that is similar to this assignment? What knowledge/ skills do I still need to complete the assignment? Where can I gain the additional knowledge/skills/information? A third reflective activity, useful particularly for FYC, is asking students throughout the semester to bring in their other writing-based assignments and facilitating class discussions about what techniques or concepts from the FYC course could be useful in that particular assignment.

Beaufort (2007) also argues that reflection alone is not enough to facilitate mindful abstraction and that we must pay close attention to the types of prompts we are assigning. In a study of prompts for reflection, Beaufort found that prompts that negotiated between being too general and too specific created the best responses. Yancey (1998) provides a host of suggestions and ideas for encouraging reflection in writing classrooms of all levels.

2. *Encourage students and instructors to learn about future writing contexts and connect learning to those contexts.* The results of this study are clear: The more students know about the writing they will be doing in the future, the better prepared they will be to transfer the writing knowledge they learn in one context into other contexts. This study finding is consistent with suggestions from the fields of education and psychology that suggests transfer is facilitated through direct connections (Bransford & Stein, 1993). Anderson, Reder, and Simon (1996) and Bransford (1989) argue that to be successful in transferring learning to new situations, learners must recognize how and where their previous knowledge applies to those new situations. This suggestion is also consistent with Downs and Wardle's (2007) writing about writing approach (which can certainly be applied beyond FYC). Wardle (2009) suggests a similar course of action by arguing that we need a course of "writing about writing" where students and instructors alike explore writing as a subject and how genres change based on the context, purpose, discourse community, and audience of one's work (p. 784). Handbooks, including *The Brief McGraw Hill Handbook* by Maimon, Peritz, and Yancy (2010), provide WA- and WID-based

examples that can further help instructors facilitate direct connections to future writing contexts through course activities and assignments.

But the question is: how far does an instructor need to go to contextualize and understand future writing situations, either in FYC or in the disciplines? Results of this study suggest that instructors need to take more steps to bring explicit connections into the classroom, steps that go beyond simply saying, "this is important and you'll need it later on." The need for instructors to actively facilitate transfer in the classroom is supported by the work of Bransford and Schwartz (1999). They argue that transfer is an "active" mental activity and that an individual's interpretation and perception of a situation where prior knowledge and skills may apply is largely dependent on what knowledge that individual brings to the situation (p. 82). Encouraging students to consider insights into their future writing situations and to be prepared for analyzing the genres and discourse communities they will encounter will better prepare them for the types of writing tasks they will face.

One example of how students might be encouraged to learn more about future writing contexts is by examining writing in their chosen fields of study. FYC instructors or programs might invite guest speakers from a variety of fields to come discuss the importance of writing in their work. An assignment I have used quite successfully is to ask students to seek out direct knowledge about future writing contexts such as through interviewing professionals, analyzing elements of their future discourse community, and developing "writing guides" on document genres in their field. These kind of assignments directly and explicitly encourage students to make connections between course content and future writing situations, provide students with accurate information about future writing contexts, and also demystify myths about the lack of writing in their futures.

3. *Do not assume that transfer occurs—always directly address transfer issues through explicit teaching.* Beaufort (2007) suggests in her final chapter from *College Writing and Beyond* that explicit instruction in the transfer of skills may be more effective than implicit instruction on how skills transfer. The metacognitive aspects of learning are important to transfer: Students must be encourage to make connections between what they are learning now, what they have learned in the past, and what they expect to need in future writing contexts. Explicit teaching can include asking students to think directly about, or engage with, writing situations that they will encounter outside of the writing classroom (as through a Writing about Writing approach, encouraged by Downs and Wardle (2007)). Instructors of FYC might ask students to learn about how writing is done in their chosen professions by asking them to investigate writing in their fields; disciplinary experts might expose students to field-specific writing genres and show them how course-based writing will transfer to these contexts. Students can be asked to interview professionals in their field, collect documents, or follow a professional for a day and see what kinds of writing takes place. Instructors might also ask students to bring in and talk about the kinds of writing assignments they are doing in other courses. Instructors of disciplinary courses might hold students accountable for material covered in FYC courses, such as formatting, research skills, and organizational strategies.
4. *Ask students to practice skills in various contexts and encourage them to understand how skills can be generalized and applied across contexts.* Beaufort (2007) provides a similar suggestion, arguing that students can be taught to "decode" writing situations and see how their skills apply. She suggests that students be encouraged to compare the readings they have done in a course for similar features, to examine writing assignments from different teachers and cross-disciplinary courses, and to use internships or community service to gain exposure to different

types of writing. Gick and Holyoak (1983) found that providing information to students in multiple contexts facilitated the transfer of learning.

To Beaufort and Gick and Holyoak's suggestions, I add that we can ask students to use writing strategies in non-classroom contexts or other types of writing situations. Although no course can cover all possible genres, giving students exposure to a variety of genres and discourse community norms—and describing their explicit connections—can begin to help facilitate transfer. Examples of this work include: writing letters to the editor of local newspapers, writing to their government representatives, working on open-source projects like Wikipedia, asking students to analyze various documents in their field for similarities.

The literature in educational psychology clearly indicates that encouraging students to learn about the "what" and the "why" can help facilitate successful transfer (Chi, Slotta, & DeLeeuw, 1994; and Bransford & Stein, 1993). With a subject like writing, it is easy to present core principles, such as research techniques, organizational strategies, or principles of grammar while neglecting to provide students with information on the background and the philosophies influencing why those principles exist.

5. *Do not dismiss prior writing knowledge. Instead, work to connect it to current writing practice.* Conventional teacher lore indicates that a common practice among FYC and disciplinary experts is to tell students to "forget everything you learned in high school." Yet, students in this study and in Bergmann and Zepernick's (2007) study indicated that high school is where they learned to write, and students highly value their high school writing experiences. Furthermore, transfer and learning theories demonstrate that teachers should build on previous knowledge and experiences, not dismiss them as irrelevant or incorrect (National Research Council, 2000). If faculty dismiss previous writing knowledge, it may lead to substantial confusion on the part of the student when new knowledge conflicts with previous knowledge (Bransford & Johnson, 1972).

I find that students come into my own classroom with a set of "rules" they have gained from their high school writing experiences: never use contractions, never use "I" or "me," write essays that are five paragraphs in length, always end your first paragraph with your thesis statement, and so forth. Instead of dismissing these "rules" outright and possibly causing a conflict of knowledge and frustration on the part of the student, we instead discuss the contextual and rhetorical nature of writing: how in certain discourse communities and writing situations, the first person is acceptable while in others it is not. We talk about how students might build upon what they know about writing a five-paragraph paper in writing a five-page paper. We also engage in substantial reflection about adapting writing knowledge from previous courses to their FYC course, and from their FYC course to other writing situations they are encountering during the semester. Each time students bring "rules" from previous courses to their current learning, it is an opportunity to connect and build upon their prior knowledge and experiences and thus to help facilitate transfer. This is also a valuable lesson in audience awareness and idiosyncratic reading behavior.

6. *Ensure that students know how different skills connect to each other and how knowledge builds upon previous knowledge.* The idea of building upon knowledge can be traced back to Vygotsky's (1978) "zone of proximal development," and Wood, Bruner, and Ross' (1976) discussion of scaffolding. The concept of "scaffolding" in literacy education refers to providing students with instruction and support so that they can slowly reach literacy tasks over time (Vacca & Vacca, 2005). A similar type of scaffolding can be constructed within first-year and

disciplinary classrooms, where each activity that students do builds upon their previous knowledge and shows them a clear path forward—continuing beyond the FYC classroom and into their disciplinary writing contexts. One suggestion for encouraging scaffolding is to use some of the suggestions above to develop curriculum that connects to students' pasts and futures as writers and to work with the knowledge students bring to the writing classroom. For teacher training purposes, instructors too can be asked to do these same activities with their own learning processes.

Conclusion

Given the need for more research in understanding transfer and a better understanding about the role of student attitudes and their impact on learning, this article described results of a study that investigated the connection between perceptions of transfer and student attitudes about writing. The findings presented here resonate and build upon much of the cross-disciplinary research on transfer, helping to build a more complete picture of the challenges students face when transferring knowledge about writing gained in FYC to writing in other disciplines. Researchers and teachers need to continue the important work of studying student beliefs, attitudes, and definitions of writing to form a more complete picture of the problems and challenges associated with the transfer of learning across the university.

As educators, we need to recognize that the attitudes and definitions about writing students bring to our courses may substantially impact their ability to learn. By teaching for transfer and demystifying future writing contexts, we can facilitate learning environments in which transfer is not just possible, but encouraged.

Appendix A: Survey Instruments

Survey of Writing Issues – Beginning of Semester

Survey ID# _____

Gender(circle one): Male Female

Major _____

Year (circle one): Freshman Sophomore Junior Senior

I am a good writer.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
What I have learned in my ENGL 106 course will help me with other courses.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
My ENGL 106 course has prepared me for college writing.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
I enjoy writing.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>

All English courses ar the same.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
I will be able to use the information I learned in this course in many other college courses.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>

What do you think a college “English” class is about?

What do you expect to learn in this class?

What do you think the overall purpose of your ENGL 106 course is?

My ENGL 106 course taught me how to write in my major.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
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Why or why do you not expect what you learn in this course to help with writing in your major?

I expect my ENGL 106 course content to help me with writing beyond college.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
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Why or why do you not expect what you learn in this course to help with writing beyond college?

Survey of Writing Issues – End of Semester

Survey ID# _____

Gender(circle one): Male Female Major _____

Year (circle one): Freshman Sophomore Junior Senior

I am a good writer.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
What I have learned in my ENGL 106 course will help me with other courses.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
My ENGL 106 course has prepared me for college writing.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>

I enjoy writing.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
All English courses are the same.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
My ENGL 106 course taught me how to write in my major.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
I expect my ENGL 106 course content to help me with writing beyond college.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
I will be able to use the information I learned in this course in many other college courses.	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>

What are three things that this course focuses on? (i.e. literary analysis, writing persuasively, etc)

List what you believe to be three overall purposes of ENGL 106?

How much of what you have learned will help you in your other courses? Why is this so?

Think back to a time when you used something you learned in this writing class in another situation. What was it that you used?

Do you think any of this course's content will help you with writing beyond college? Why or why not?

What do teachers look for when they're grading writing? That is, what do they base their grades on? Is this the same in every class?

When you're in a new class, how do you figure out what the professor is going to be looking for?

Appendix B: Student Interview Questions

Opening Question: Think about when you sit down to write. What are some of the rules you carry around in your head about good writing?

Probe: Which of those rules do you actually try to follow?

Probe: Where did you learn them? From a class? A book? Or trial and error?

Q1: Think about the kinds of writing you do in the classes you've taken at [University]. What kinds have you done so far?

Q1 Probe: What kind of writing is most difficult for you?

Q1 Probe: What is it that makes it so difficult?

Q2: Think back to writing classes you've taken. What kinds of activities took place in class? Lecture? Class discussions? Revision workshops? In-class writing?

Q2 Probe: Which of those activities did you find most useful?

Q2 Probe: What are some differences between the way writing is taught in English classes and the way it's taught in other classes you've taken?

Q3: Think about some of the comments faculty have made about your writing. What were some of those comments?

Q3 Follow up: The common wisdom among writing teachers right now is that all comments on papers should be positive--telling writers what's working in the paper. According to this view, negative comments are too discouraging and do more harm than good. But in our first focus group, some people commented that they'd learned the most from comments telling them what didn't work. How do you feel about this?

Q3 Probe: Which of those comments have helped you improve your writing?

Q3 Probe: What kinds of comments do you find most useful?

Q4: Now I'm going to ask you to think about the kinds of grades you've gotten on papers you've written for school. How closely does your own opinion of the papers you've written match the grades you've been given on them?

Q4 Follow up: What do teachers look for when they're grading writing? That is, what do they base their grades on?

Q4 Probe: Is this the same in every class?

Q4 Probe: When you're in a new class, how do you figure out what the professor is going to be looking for?

Q5: Teachers in math and the sciences see what they call the "box under the bed" syndrome when they ask students to recall in one class information they've learned in a different class. They find that students metaphorically put what they've learned each semester in a box under the bed instead of trying to make connections and see how things learned in previous classes apply in other situations. I'm trying to find out if students ever have "box under the bed" syndrome with skills or knowledge gained in writing classes. Do you think this metaphor is accurate? Why or why not?

Q5 Probe: How easy is it for you to use what you've learned in a writing class in another class or another writing situation?

Q5 Probe: What makes it easy or hard for you to do that?

Q5 Probe: Did your writing course at [University] teach you skills to accomplish this?

Q5 Probe: Did you find this happening in your [FYC] course?

Q5 Follow up: Think back to a time when you used something you learned in a writing class in another situation. What was it that you used?

Q5 Probe: Why was it useful?

Q6: If one course were to best prepare you to write in your discipline or future, what would that course look like?

Closing: If someone were going to ask you for the secrets of good writing, what would you tell them?

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Notes

[1] This research was supported by grants from the Purdue Research Foundation. Special thanks to H. Allen Brizee, Edmund Jones, Elaine P. Maimon, Charles Moran, Lori Ostergaard, Sherry Wynn Perdue, Reuben Ternes and one anonymous reviewer for their helpful commentary on this manuscript. Thank you also to Linda Bergmann, Anne Beaufort, Irwin Weiser, and Shirley Rose for their feedback on earlier versions of this study.

[2] A discussion about the place and usefulness of FYC in relationship to disciplinary courses is outside of the scope of this article; for more information see Beaufort (2007). This article adopts Beaufort's position that FYC and disciplinary courses can contribute to students' development of writing expertise. FYC is then viewed as only one step in a larger educational system that provides writing instruction at the college level.

[3] Initially, two continuing lecturers were also enrolled in the study but both had to withdraw due to time constraints.

[4] The differences in response rate can be attributed to attendance patterns for the last two weeks of school and natural attrition of students in courses.

[5] In the survey, the course university designator was used. It has been removed for anonymity.

[6] The declines are present for all sub-groups, including learning community sections.

[7] $t(134) = 2.669, p < 0.01$

[8] $t(134) = 4.674, p < 0.001$

[9] $t(133) = 4.646, p < 0.001$

[10] $t(133) = 5.319, p < 0.001$

[11] Note that many students responded with multiple features of good writing; all features are accounted for in this list.

[12] Class observations from the study are not discussed at length in this article due to space limitations.

[13] This finding was revealed during the interviews (which took place the semester after the survey data was complete). As such, no survey data exists to help understand larger patterns of student belief beyond the interviews.

[14] Four of the six students in this category indicated that the kinds of writing they did in their disciplines was not writing at all, while two of the six indicated that the research papers they were required to write in their disciplines were, in fact, writing. All students in this category did not include genres beyond the typical “research paper” such as lab reports, routine business documents, or memos.

[15] Adding to this problem, in the data I collected from instructors in this study (Driscoll, in preparation), three of the eight faculty teaching these courses also demonstrated extremely limited knowledge about the kinds of writing (or existence of it at all) in other fields.

[16] This is not saying that they may not be able to transfer at all, but they will not be able to transfer via *high road* as Salomon and Perkins suggest. Activities that are so well-learned they become second nature, like grammatical or stylistic maneuvers, may transfer automatically via *low road transfer*.

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Complete APA Citation

Driscoll, Dana Lynn. (2011, December 21). Connected, disconnected, or uncertain: Student attitudes about future writing contexts and perceptions of transfer from first year writing to the disciplines. *Across the Disciplines*, 8(2). Retrieved from <https://wac.colostate.edu/docs/atd/articles/driscoll2011.pdf>