

Understanding ‘Transfer’ from FYC: Preliminary Results of a Longitudinal Study

Elizabeth Wardle

In *The End of Composition Studies*, David Smit summarizes what we know as a field about the transfer of writing-related skills from first-year composition (FYC) to other courses and contexts: very little. Smit’s primary criticism is of the dearth of systematic *research attention* paid to transfer from first-year writing courses; he makes a valid point. Although there have been a few theoretical discussions of writing transfer and FYC (Foertsch), writing centers (Hagemann), and advanced writing courses (Kain and Wardle), nearly all research studies of writing-related transfer are confined to the field of professional communication. Composition researchers have conducted only three case studies (McCarthy; Walvoord and McCarthy; Carroll) that discuss FYC writing-related transfer problems—and these were not studies initially or primarily interested in transfer.

While the goals for FYC are debated in our journals, the fact that nearly every student is required to take FYC suggests that administrators, policy makers, parents, and students expect the course to prepare students for the writing they will do later—in the university and even beyond it. Implicit in these expectations is the assumption that FYC should and will provide students with knowledge and skills that can transfer to writing tasks in other courses and contexts. Yet we have no evidence that FYC facilitates such transfer, as a number of composition scholars have pointed out for decades as they have critiqued FYC and even called for the abolition of FYC requirements (Brannon; Goggin; Kitzhaber; Russell; Petraglia). Moreover, if we extrapolate from transfer research in other fields—most notably educational psychology—we should not expect to find much evidence of transfer from FYC. “Overwhelmingly,” Smit concludes, “the evidence [from these other fields] suggests that learners do not necessarily trans-

fer the kinds of knowledge and skills they have learned previously to new tasks” (119).

Despite the lack of evidence for transfer from FYC (or most other educational experiences), numerous critiques of FYC, and a variety of suggested alternatives to FYC based on its supposed shortcomings, the course remains one of the few common general education requirements for nearly all students in all colleges and universities across the country. Because FYC continues to be required, the field of Rhetoric and Composition in general—and those of us working as writing program administrators in particular—would be irresponsible not to engage the issue of transfer¹. Not only must we acquaint ourselves with the rich theoretical discussions and research findings from other fields, we must conduct our own research on writing-related transfer from FYC.

In this paper I address the lack of engagement with the problem of transfer from FYC. I first take up the problem theoretically by defining “transfer” and discussing how we might study it. I then describe a longitudinal pilot study I have been conducting, and describe my initial findings as I followed seven of my former FYC students across their first two years of college. I conclude by identifying the types of learning transfer that the findings of my study suggest may—and may not—result from student participation in FYC.

DEFINING TRANSFER

Though how we define “transfer” will influence what we look for (and find) in any study of it, our field has spent little time defining the term. Most published work on transfer from rhetoric and composition either assumes a shared understanding of the term as the ability to carry and use knowledge from one situation to another (i.e., Foertsch) or implicitly describes transfer relative to other phenomena (such as development or expertise—e.g., Carter). Other disciplines, particularly psychology, have more directly engaged the notion of transfer, hotly debating the concept and whether the term “transfer” should be used at all. Various conceptions of transfer have emerged as a result.

In this section, I review three conceptions of transfer that focus on tasks, individuals, and activity respectively. While each perspective frames transfer differently, they are not mutually exclusive (Tuomi-Gröhn and Engeström 35).

1. *“Task” Conceptions*: These classical cognitive conceptions (e.g., Judd, Thorndike, Thorndike & Woodworth) theorize transfer as the transition of knowledge used in one task to solve another task.

Here, “training of basic mental functions [is] thought to have general effects that [will] transfer to new situations” (Tuomi-Gröhn and Engeström 19) and/or students can grasp general principles that, previously learned in Task A, are now required in Task B (20). The focus is on the task or tasks being performed.

2. “*Individual*” *Conceptions*: These views focus on the learner’s disposition to “seek out and create situations similar to those initially experienced” by teaching learners to be reflective (Tuomi-Gröhn and Engeström 24). Here, the focus is on an individual’s “disposition;” the goal of schooling, according to this view, is to teach students “learned intelligent behavior” that will help them seek out and/or create situations in which what they have learned will transfer (24). The focus and the responsibility for transfer, then, lie with the learner.
3. “*Context*” *Conceptions*: Many researchers have criticized cognitively-oriented views that focus on the task or individual learner for separating “cognition from social world ... form [from] content” (Lave 43). As a corrective, Tuomi-Gröhn and Engeström describe three context-focused conceptions of transfer—situated, sociocultural, and activity-based.
 - *Situated*: According to this conception, the basis of transfer is understood not as the redeployment of “knowledge from task to task but [as] patterns of participatory processes across situations” (Tuomi-Gröhn and Engeström 25). Participatory processes are supported by affordances directly perceived by the individual—a chair is seen as sit-on-able, for example (25). Researchers who advance this perspective suggest alternative terms for transfer, such as *productivity* (to refer to the generality of learning) (i.e., Hatano & Greeno) or *participation* (i.e., Lave & Wenger) (26).
 - *Sociocultural*: This perspective shifts the emphasis from individual learners to interactions between people “involved in the construction of tasks” (Tuomi-Gröhn and Engeström 27). Taking this view, King Beach argues that people generalize “across various forms of social organization” and that *generalization* is always in direct relationship to social organizations (Tuomi-Gröhn and Engeström 27). Generalization “is not located within the developing individual nor can it be reduced to changing social activities. Rather, it is located in the changing

relationship between persons and activities” (Tuomi-Gröhn and Engeström 27).

- *Activity-based*: Similar to sociocultural approaches, this perspective focuses more explicitly on interactions between individual learners and contexts but expands the basis of transfer from the actions of individuals to the systematic activity of collective organizations: “...the individual’s learning is understandable only if we understand the learning of the activity system” (30). Proponents of activity-based views discuss “transfer” as “*expansive learning*,” in which questioning existing practices plays a key role (30).

In fact, activity and sociocultural theorists avoid the term “transfer” because of its association with task- and individual-based conceptions. Beach suggests that previous notions of transfer describe “just plain learning,” which is difficult to isolate in studies and thus of little use to researchers even though we know such learning happens constantly, “moment by moment” (40). Instead, Beach calls our ability to use prior knowledge in new ways and in new situations “generalization.” Generalization includes classical interpretations of transfer—carrying and applying knowledge across tasks—but goes beyond them to examine individuals *and* their social organizations, the ways that individuals construct associations among social organizations, associations that can be continuous and constant or distinctive and contradictory (41). Generalization, according to Beach, happens through transition.

David Guile and Michael Young adopt this same language, arguing that we must “reformulate transfer as a process of transition between activity systems” (77). The learning of the activity system and the learning of an individual are intertwined, and the individual’s learning is understandable only if we understand the learning of the activity system (30). It is not the working of a problem by itself that causes people to become motivated to learn; rather, it is the nature of the activity system in which the problems and learners’ interpretations are embedded that makes the difference in whether people can generalize learning. Two key determinants influence these potentialities: first, “learners need to be supported to participate in an activity system that encourages collaboration, discussion, and some form of ‘risk taking.’” Second, learners need to have opportunities to share and be inspired by a common motive for undertaking a specific learning task” (Guile and Young 74).

Conceptualizations of transfer that focus on tasks or individuals and look for learned skills to be applied new settings view individuals as

being *in* situations. By contrast, the sociocultural approach derived from “[a]ctivity theory offers a more dynamic approach both by seeing context as an activity involving both contextualizing and recontextualising [sic] processes and by refusing to separate the individual from the context in the first place” (Guile and Young 73).

STUDYING “TRANSFER”

These various conceptions of transfer illustrate that prior to any study researchers must determine what lens they will use to design studies and analyze results. Given our field’s interest over the past decade in context, community, and activity, I suggest we would be remiss to focus solely on task- or individual-based conceptions of transfer with little regard for situation and activity. However, if we do take context and activity into account, we have a much more difficult study.

When we confine our attention to individuals, we may be tempted to assign some “deficiency” to students or their previous training though in fact the students may fulfill the objectives of their next writing activities satisfactorily without using specific previously-learned writing-related skills (such as revision). In addition, according to the complex understandings of transfer that emerge from activity-based theories, some previously-learned knowledge and skills that are appropriate for and needed in a new context or activity system may be applied differently than in the context or activity system in which they were learned. Therefore, if we look for but do not find direct evidence that students use specific previously-learned skills in new situations, we cannot necessarily assume that students did not learn them, have not used them, or will not use them in the future.

A more expansive study must look to the nature of writing activities, including other contexts in which students subsequently become involved, to understand whether and why students expand or generalize skills learned in FYC. If participation in new activity systems fails to motivate students to use those skills, it is possible that impetus for transfer may not be obvious, or readily available, to them. To return to an earlier metaphor, the chair does not seem (to the student) to be “sit-on-able” in the particular context. Consequently, we should attempt to account for the ways in which knowledge and skills are *transformed* across contexts; otherwise, we risk overlooking manifestations of skills that have been adapted to meet the needs of a new activity system.

Following Beach, I suggest that focusing on a limited search for “skills” is the reason we do not recognize more evidence of “transfer”; we are looking for apples when those apples are now part of an apple pie. Even though

taking a broader view adds to the difficulty of any study, transfer, or the apparent lack of it, is only evident when we examine the activities of schooling broadly. Therefore, I use the terms and concepts derived from activity-based theories of transfer, in particular the notion of generalization, as a lens to account for the crucial relationships between persons and situations over time.

A PILOT STUDY OF TRANSFER

Given the more complex understanding of transfer suggested by socio-cultural theories, what might a study of generalization—Beach’s alternative to transfer—look like? Taking context, purpose, and student perception of writing both in and beyond FYC into account, I designed a qualitative, longitudinal pilot study following seven students from my Fall 2004 FYC course as they wrote across the university to answer four research questions:

1. What do students feel they learned and did in FYC?
2. What kinds of writing are students doing elsewhere?
3. How do students perceive that writing and what strategies do they use to complete it?
4. Do students perceive FYC as helping them with later writing assignments across the university?

In Fall 2004 I taught one section of honors FYC, Intro to Writing Studies, as a pilot course at the University of Dayton, a private, Catholic, liberal arts school of 10,000 students in Dayton, Ohio. The course included many of the same activities as other FYC courses: researching, reading, and writing arguments; planning, revising, peer editing, and reflecting on writing. However, the course content focused explicitly on reading and writing and the students explored questions including: How does writing work? How do people use writing? What are problems related to writing and reading and how can they be solved? Students read writing research, conducted reading and writing auto-ethnographies, identified writing-related problems that interest them, wrote reviews of literature on their chosen problems, and conducted their own primary research that they reported both orally to the class and in writing. The course design, borrowed from Doug Downs (see Downs and Wardle), seeks to rectify what we view as some of the more common problems with many FYC courses (i.e., separating content from context) and to infuse the course with strategies shown to encourage transfer, most obviously meta-awareness about writing and its uses in

society. The goals of the course include helping students reflect on how writing is used in society and across disciplines as well as the ways that academic arguments take shape through primary and secondary research.

Participants and Methods

Seven students from the class agreed to participate in my study: Stephanie, Bobby, Kerry, Brian, Liz, Teresa, and Matt. All were traditional first-year students in their late teens and all had been placed in the honors section of first-year writing as a result of combined ACT verbal and quantitative scores equal to or greater than 27. At the time they joined my study, Stephanie, Kerry, and Teresa were biology majors; Liz was a chemistry major; Bobby and Matt were political science majors; and Brian was an undeclared business major. All were required during their first two years to take general education courses intended to provide a traditional liberal arts education; in their first year the students took religion, history, philosophy, and composition courses. In general, the students met the goals of the FYC course.

Each semester since the FYC course ended, I have met with the students either individually or as a group and have collected copies of all their academic writing assignments. I plan to continue to meet with the students and collect their work until they graduate. In Winter 2005 I met with the students twice—once as a focus group midway through their second semester and then individually at the end of their second semester. At the end of their third semester (Fall 2006), I again met with the students as a group at which time each student filled out a survey and participated in a focus group. At the end of their sophomore year (Winter 2006), I met with each student for an individual interview.

As the project progressed I continually analyzed both student writing and interview/focus group transcripts. I coded the transcripts for themes stemming from my research questions, categorized the student writing according to genre and purpose, and compared student comments about the writing to the writing itself.

Study Limitations and Benefits

My pilot study is limited in several ways. First, as a teacher-researcher, I followed my own students to investigate what they generalized from my class. The strengths of this positioning include that I knew the students well; we had a relationship and rapport before the study began; and I knew what the students had focused on in FYC. The weaknesses include the possibility that students might feel they needed to please me in their interviews and focus groups or that they might try to give me responses they thought

I wanted to hear. While these are very real dangers in teacher-research, the students in my study were often brutally honest with their answers in ways that were clearly not intended to please the teacher, as the results demonstrate.

Another limitation of my study is the small and homogenous student sample. The students in my study do not represent the wide range of students enrolled in FYC courses. All were white, middle- and upper-middle class honors students enrolled at a private liberal arts university—students one would expect to be savvy, educationally successful, and able to “transfer” knowledge and abilities more easily and often than less well prepared students.

Though a study of seven students is insufficient for generalization, examining the work and experiences of small numbers of students in detail over several years allows us to look deeply at patterns and raise questions that can later be pursued in larger studies. In that respect, my approach reflects a long and fruitful tradition of such case research (e.g., Beaufort; Carroll; McCarthy; Sternglass; Winsor), though, clearly, further studies with other groups of students at different types of schools are needed to paint a broader and more accurate picture of how students generalize writing knowledge and skills in college.

Finally, my study design depended upon student self-reports and student writing. I did not observe students in their other classrooms or interview their other teachers, though these additional methods of data-collection would be invaluable additions to future studies. This pilot study relies on student accounts to begin to search out specific areas for further study—and for a sound theoretical reason. From the socio-cultural perspective of activity-based approaches, the *students’* understanding of tasks and activity systems is central to our ability to identify “transfer” or any apparent lack of it. If we do not know how students understand and respond to tasks and contexts, we have no basis for identifying and interpreting generalizing behaviors that might be considered forms of “transfer.”

FINDINGS FROM THE FIRST TWO YEARS OF THE PILOT STUDY

Even after the class was long over, students in my study claim they learned in FYC. According to the students, they learned about new textual features (including new ways of organizing material), how to manage large research writing projects (including use of peer review and planning), how to read and analyze academic research articles; and how to conduct serious, in-depth academic research.

Most importantly, students were able to engage in meta-discourse about university writing in general and their own writing in particular. The language students used in interviews suggests they gained some meta-awareness about language use, most commonly about similarities and differences in writing across disciplines. Nearly all the students consistently discussed differences in disciplinary writing—a perspective they could not articulate when they came into FYC. However, in their first two years of college, students rarely reported the need for writing-related knowledge and behaviors learned and used in FYC. When generalization occurred, context-specific supports were necessary for engagement and success. In the next sections, I discuss each of these findings in more detail.

Students Rarely Generalized from FYC

Despite students' assertions that they had, in fact, learned useful lessons in FYC, they also maintained that they rarely needed those lessons elsewhere. In general, students wrote very little their sophomore year and found the writing they did first and second year to be fairly easy. Many writing assignments required simple summary or regurgitation and could be completed successfully (earning an A or possibly a B) without research and at the last minute.

For the most part, the students did not need the writing-related behaviors they used in FYC (i.e., careful preparation, careful research, deep revision, peer review) to achieve good grades on writing assignments in other courses—which was, to them, the measure for identifying what was worth doing. Thus, students reported writing at the last minute, doing little revising, and generally not being engaged with their writing—but receiving grades that satisfied them. This result, as Christine Casanave points out, mirrors Leki's study of undergraduate student Jan, who used "wily and even illegal" strategies to survive writing assignments he viewed as "senseless" (41). While my students did not use any illegal strategies (as far as I know), they did only what was necessary to earn good grades on assignments they thought to be easy and un-engaging. For example, Kerry told me that her writing assignments in other courses did not usually require advanced preparation or revision:

For psychology, we had ... short, two-page papers ... and ... I could pretty much sit down and write that out from my notes. Some of the questions we had to answers were like, take these little quizzes and then respond based on like how you answered the questions. I don't think I really need to pre-write for that. And, I guess the demands of the teacher were a lot

less, too. So, the quality of my work may not have been as good, in the fact that I [didn't] s[i]t down and ... organize it. I guess I was ... meeting her expectations, and I didn't feel like I had to go beyond that.

Teacher expectations—described as generally “low” by almost all students for the first two years—were integral to student effort and preparation (or lack thereof). Students reported that many of the writing tasks were “high school like” and students did not feel the need to change their high school writing behavior to complete them (a finding in keeping with the results of Lee Ann Carroll’s longitudinal study). The students reported being able to write better than they actually did in other courses but not doing so because they were not required to in order to earn an A or B. Teresa questioned whether her physics TA even read her lab reports. Bobby told me he was earning As and Bs on writing assignments despite the fact that he was “not using any strategies from my [writing] toolbox right now ... I’m not sure if [my writing habits] have changed much at all [since high school]. At least aside from a couple of times, I haven’t actually been forced to change them.”

While from the perspective of a writing instructor this finding is discouraging, it underscores the usefulness of conducting activity-based research about “transfer”—without interviewing students regarding their perceptions of assigned tasks, I might have incorrectly assumed that no generalizing was taking place and that FYC had no impact on students. In interviews and focus groups, the students repeatedly mentioned skills, lessons, and abilities they felt they had gained in FYC, but students perceived that those were almost never required to successfully complete writing assignments in other courses.

At times students avoided challenging assignments altogether—not because they felt unable to complete the assignments, but because they were unwilling to put forth the effort required to generalize previous writing experiences, knowledge, and abilities. This seemed to happen when the effort exceeded what they determined to be the reward. Matt, for example, dropped his fourth semester National Security Policy class—a class he admittedly enjoyed—because the final paper on Donald Rumsfeld would have taken more effort than he was willing to expend for the grade he felt he could earn:

I didn't want to spend like 48 hours trying to do research.... I just didn't want to do that paper, because I know I would have spent all this time on it and would have been lucky to walk away with a B, just because I can't give him what he wants....

I chose Donald Rumsfeld, because I thought there was a lot on him. There wasn't, and that was discouraging right off the bat.

Matt did not doubt his own ability to research or write the paper; he had conducted an extremely complex research project in FYC and written about it masterfully. In National Security Policy, however, he was not motivated to bring his abilities and experiences to bear in order to complete the writing assignment.

Matt admitted that his National Security Policy instructor was requiring the type of work that all instructors should require. Since other instructors were not demanding, however, Matt was not willing to expend effort to generalize his writing skills for the one teacher who was:

[If all teachers had the same expectations as the National Security Policy instructor] ... that would suck, because then you would have to do the amount of work that you're supposed to. You're supposed to go to class for 15 hours, 45 hours outside, and if they were all like that, it would almost be like a 9 to 5 job, where you just sit down, you go to one class and then you start writing for another, stop, do writing for another, do research for another thing, but that would be such a drastic change. Because, literally—I'm in a slump, if you want to call it—my day is I roll out of bed ten minutes before class, I go to my two classes, come back, and lay on the couch, maybe take a shower. And then if I have a meeting or something. I don't know. I have nothing to do. Maybe because my schedule is pretty easy ... nothing is encouraging me to do [the work] anymore and because I don't have to I don't.

Matt clearly could have completed the paper—he had the time, relevant prior research and writing experience, and a teacher and class he liked. He did not, however, have the motivation, and the general education system allowed him to drop the class rather than be forced to motivation. In this respect, the larger activity system of schooling was not structured such that Matt needed to draw on his previous experiences and abilities to advance his own educational goal—to get a degree and be admitted to law school.

Other students demonstrated similar behaviors for other reasons but justified their behaviors as related to time rather than being in a "slump." Students had to prioritize. If a non-major class required a lot of work for an A, students would not necessarily use their skills and strategies to achieve that A due to lack of time. Liz, for example, found herself in a History of Aviation class, which satisfied a general education requirement but did not

interest her in a personal way or relate to her Chemistry major. She found the history papers difficult and her grades were lower than she would have liked. Yet she told me she did not change any of her writing-related behaviors to try to improve her writing and grades. Even after receiving Cs (a grade all these honor students considered unacceptable), she continued to write the course papers in 20 minutes and never asked the teacher for feedback: "I should have [changed my process] but I didn't.... It was kind of a last priority because it wasn't a major class and I knew I could do ok without putting that much effort into it." Liz earned her lowest grade on her midterm in Aviation History. She freely admitted to me that she did not understand the reading and thus did not write about it well—but this is not to say she could not have done better: "...[I]t was something I needed to spend a lot more time reading about and trying to figure out before I wrote, which wasn't practical at the time." Thus, her lack of generalization from FYC was not due to lack of ability, learning, or knowledge about how to improve, but rather to the nature of the educational activity system, time constraints, and the student's priorities—in this case the weight and importance placed on major versus non-major courses.

On those occasions when students *wanted* to use some FYC writing strategies and really engage with their assignments, they found that assignment structures rarely encouraged them to do so. For example, at the end of his second semester (before he hit his "slump"), Matt reported the he liked to draft in advance and return to revise the draft later, but he was not always able to do so: "...[in] the classical Greek philosophy [class] ... [the instructor] doesn't give us the questions on the syllabus, he gives us the questions like a week before it's due. So we didn't have [time to revise]."

My findings thus far, then, suggest that the students did not often generalize from FYC—but not because they are unable to or because they did not learn anything in FYC. Rather, students did not *perceive a need* to adopt or adapt most of the writing behaviors they used in FYC for other courses. As a result, some students tended not to use the strategies even when they knew they could have benefited from doing so. The activities of schooling (at least for these students at this one school during their first two years) did not routinely encourage or require students to generalize the writing skills and knowledge gained in FYC. In other words, neither the writing tasks in other courses nor the structures of the larger activity system of the university provided the necessary affordances for generalization.

The only ability students seemed to consistently generalize from one writing task to another within the various activities of schooling was meta-awareness about writing: the ability to analyze assignments, see similarities and differences across assignments, discern what was being required

of them, and determine exactly what they needed to do in response to earn the grade they wanted. For example, Bobby reported that for a philosophy course he was asked to compare "Socrates and Plato in regards to what they think about the Humanities Base themes." At first, he said, he "got kind of freaked out" but after thinking about past writing he realized "Oh, I do know how to do this." The most important skill for him was the ability to rhetorically reflect on and analyze current and past writing assignments. This should not be surprising; meta-awareness is one of the most transfer-encouraging behaviors, according to psychologists David Perkins and Gavriel Salomon². In FYC we practiced reflecting on writing and writing processes, activities that students had not often done previously. However, meta-awareness of the rhetorical situation is a skill that these successful honors students had been honing throughout their years of schooling.

How Can the Next Activity System Support Generalization?

While we can certainly work to incorporate meta-awareness of language and discourse communities into our FYC courses, the results of my study pushed me to ask what needs to happen in the next writing task to encourage students to generalize their learning about writing. Did the students in my study ever generalize and, if so, under what circumstances? When, if ever, did teachers succeed in engaging students and encouraging them to generalize, push them to put in extra effort and see that effort as worthwhile?

The students indicated they would not use all of their writing-related knowledge and abilities unless an assignment "engaged" them. They had very specific ideas about what constitutes an engaging writing assignment. During a focus group the second semester of their first year, the students talked at length about the kinds of writing assignments that engaged them. At the end of that focus group, the students had created a fairly explicit list defining their definitions of an engaging writing assignment:

- The assignment does not have one "right" answer but is a truly engaging rhetorical problem; the assignment "seems authentic" to the student (Joseph Petraglia calls this an "ill structured problem").
- The prompt for the writing assignment is thought-provoking so students think about the assignment outside of class and when not writing.

- The assignment is open to student ownership; students have some autonomy/freedom while being given the necessary structure to help them succeed.
- The assignment is not simple regurgitation or summary of facts, which feels like “busy work.”
- The assignment relates in some way to students’ interests/future; writing is easier and more meaningful when students have read deeply about the topic and are engaged in the conversation about it. This is easier when the course is in students’ majors; when the assignment is in a general education course, the teacher who engages students helps involve them in a conversation so they know something about what is being said about the topic.
- The assignment is challenging, not easily within students’ reach, and teachers maintain high expectations for the results.
- The assignment clearly relates to the rest of the course content.
- The assignment is intended to achieve a clear purpose, is “goal-oriented.”
- The assignment is clear; students understand what is being asked of them and why.

As the students in my study recounted, these types of assignments were rare during their first two years of school. Students claimed that most writing assignments were summary. On those rare occasions when the criteria for engaging writing assignments were met (and when they, unlike Matt, remained in the class to complete those assignments), students in my study did report some generalization of knowledge from FYC—though at times they did not recognize the generalization until our conversations later. Writing assignments considered engaging included a paper Brian wrote advising potential Google investors about the viability of the stock, and a paper Matt wrote analyzing his physical security risks at home, school, and work. Stephanie’s History of Europe class involved a number of writing assignments she found engaging and challenging:

[The] first [history paper] we had to write was retroactive history, where you go back at some point and say, okay, well if this had happened, then all of this other stuff would be different, and this would be this way and all this other stuff. And, I was like, “wow”! That was really hard. It was fun. I didn’t do all that well on it, but it was fun.

Engagement, then, often means difficult; as a result, students do not always earn the highest grades on engaging assignments. At other times,

though, an assignment can be engaging without being difficult. Engaging but not challenging assignments might help students achieve the goals of the course but achieving those goals does not necessarily require any generalization of new skills. For example, Stephanie and Kerry both completed an assignment for Genetics that asked them to creatively imagine what it would be like to take a gene from one species and mix it with another. Both students asserted that the assignment was “cool,” but neither found it especially challenging. Liz completed papers in philosophy she described as “engaging but not challenging ... because it was stuff we had done over and over again in class.” Liz specifically told me that every time she wrote one of the philosophy papers she learned a lot; she did not, however, need to draw on and generalize any writing skills, behavior, and knowledge from FYC to do that learning. In these cases, the goals of the activity system appeared to be satisfactorily achieved without generalization of FYC writing skills and behaviors.

When students completed engaging *and* challenging writing assignments, they did at times achieve generalization from FYC—but rarely consciously. For example, in her biology lab, Kerry wrote a lab report very similar to the research paper she had written in FYC, reviewing literature on the problem and reporting her own research. During our interview she indicated she thought FYC had helped her with this assignment despite the fact that she had not consciously considered the similarities until later:

I didn't really even think about it until you had e-mailed me and ... I realized ... this was really similar to the format [of the FYC paper]. . . . When I was doing it I don't think [I saw the similarities]. Later, I clearly saw it. . . . I think [FYC] did help me ... because I had done so much work on the library web page and finding sources and going through them for [FYC]. So, I think finding research I was familiar with, how that process was done, [helped me]. . . . I think if I hadn't done [the FYC paper], [the lab report] would have been a lot more difficult in that respect and finding support and knowing how to integrate this report into my ideas and using it to support the conclusion that I was drawing. . . . I do think that having previous experiences doing something kind of similar helps a lot.

However, simply having had previous experiences similar to the new and engaging writing task was not enough to ensure generalization. Even if a new writing task mirrored earlier writing tasks in some way, students needed context-specific support to successfully complete the tasks in new

contexts. The support students needed mirrored Lucille McCarthy's findings in many ways. Students indicated that teacher feedback, peer interaction, and previous experience reading and writing in the same field were important to their writing successes when faced with new challenges.

These context-specific supports are so important to generalization that they merit some detailed discussion. *Teacher feedback* was extremely important to students early on in college, but seemed to decrease as the first two years of college progressed. Students claimed to understand and use the feedback they received. For example, Matt reported that his sociology teacher put checks or minuses next to paragraphs or wrote short comments such as "that was a good paragraph" and then a few sentences of commentary at the end. Matt used these comments to complete the next assignment. He said, "I ... go back to an old paper and take a 'good' paragraph and then copy paste it onto a new paper and change a few sentences around.... He likes it so I'm going to use it again."

Students also reported wanting more opportunities for feedback. By the end of the second year, teachers seemed to give very little feedback unless students asked for it. Most teachers offered out of class feedback, but not all students felt they needed it to achieve the grade they wanted. Brian, for example, told me that his Business Ethics teacher offered to review drafts and provide feedback, but no one in the class took advantage of this offer. Yet having the *opportunity* to receive feedback—whether that opportunity is seized or not—seems to be what is important. If students felt they needed feedback and did not receive it, they complained they could not perform at their best. Kerry, for example, noted that her biology professor would not help her: "...[in biology] lab, I even e-mailed the professor ... and asked if he could provide any more advice on how I should approach [the lab report] differently, and it took him two weeks to get back and then it was ... two sentences." She was also not pleased with the feedback from the biology TA on the very assignment she suggested mirrored the FYC assignment. Though the TA gave her grading rubrics and she used those to her advantage, she was still unhappy about lack of written feedback, arguing that comments "would have been good to have when completing the second [lab report]."

Students who received assistance outside of class found it useful. In an earlier class, Brian approached his business teacher out of class for help with documentation style, and approached the research librarian for research assistance. He received help from both and credited them with at least some of the success of his research report for potential Google investors.

Reading or writing in the field was a related context-specific support to generalization. In fact, teacher feedback seemed to decrease in direct pro-

portion to this element—as students took more classes in the same area, teacher feedback lessened. Early on, only Matt had taken enough courses in one field (sociology) to find this support useful: “[I learn to write for the discipline] ... through the teacher and a little bit of trial and error. Reading a lot of the case studies ... I think I drew on the other sociology class I had. I mean all the writing [in sociology] is really interrelated.” By the end of second year, most students indicated that reading or writing various texts from the same field or discipline was becoming important to them in completing new writing tasks. The more courses a student had taken in the field, the less they complained about lack of teacher feedback. For example, when Brian completed his first major paper for a business course, he talked extensively with the teacher. By the end of his second year, he did not request—and did not receive—any teacher feedback at all, though he felt he did not need it. By the end of her second year, Teresa said she found that all lab report formats were fairly similar, so she rarely had questions about how to write them. When she did, she pulled out class readings and lecture notes to assist her.

Students also indicated that *talk with peers* about writing assignments was a support they drew on frequently, though usually informally. By the end of the second year, most of the “drafting” and “planning” students recounted had to do with peer discussion. Partially this was because a number of the assignments were collaborative; for example, Brian wrote his Business Ethics paper with a partner and thus he and his partner exchanged ideas. But when collaboration was not required, all the students still talked over their more challenging papers with peers. Stephanie told me she often brainstormed with her best friend about paper ideas, while Teresa said she always asked her roommates to read her papers; when pressed, even Matt grudgingly conceded he talked about a paper with his friend, Mike. Students who had meta-awareness about language use and were able to analyze peer feedback seemed to make better use of this element of support than students who blindly followed peer advice—again suggesting that one of FYC’s most important contributions may be rhetorical awareness. Bobby told me, “...even if the feedback usually doesn’t really help me—like they pick out stuff I know about—it’s just another call for my attention. I will go back and fix it.”

LESSONS AND CONCLUSIONS

Based on the tentative findings I have discussed here, what can we conclude about the possibility of generalization from FYC and how can we encourage it? Perhaps the most important finding so far is the importance of context

and activity to generalization—in particular, the importance of the purpose, expectations, and support for writing tasks in encouraging generalization. While students in my study claimed they learned valuable lessons in FYC, they did not generally feel the lessons and behaviors of FYC were needed in other courses during the first year. Rather, students were ordinarily able to complete their work in other classes to their own satisfaction without the lessons and strategies of FYC. They indicated they could and did generalize from their FYC experiences if required to do so by the expectations of the teacher and the engaging and difficult nature of the next writing assignment. However, previous experiences alone were not enough to ensure student success on new and difficult writing tasks. Rather, students needed context-specific support from their teachers and peers to successfully complete new writing tasks.

While all of the context-specific supports to generalization might be seen as making FYC unnecessary, I suggest that FYC continues to have a role to play. Transfer research from other fields, and well as the findings of this study, suggest that *meta-awareness about writing, language, and rhetorical strategies* in FYC may be the most important ability our courses can cultivate. We cannot prepare students for every genre, nor can we know every assignment they will be given or the genre conventions appropriate to those assignments across the disciplines. That knowledge—and the supports for learning it—must be gained in discipline-specific classrooms. What FYC can do, however, is help student think about writing in the university, the varied conventions of different disciplines, and their own writing strategies in light of various assignments and expectations. Assigning students to write rhetorical analyses of various types of texts across the university, as well as to complete auto-ethnographies of their own reading and writing habits, are two means for cultivating such meta-awareness.

Beyond meta-awareness about language, the burden for encouraging generalization seems to rest on assignments given in classes beyond FYC. Those writing assignments must be engaging and challenging, explicitly designed to help students use all the tools in their writing toolboxes—as necessary for achieving the learning goals of the specific classroom activity system. Consequently, while I began this research project looking solely at the problem of knowledge transfer, I end by arguing that as a discipline we must continue to make efforts to share our work with those outside of our field. Unless we continue to expand WAC and WID programs and discuss writing and writing assignments across disciplinary boundaries, our work in FYC is likely to have little practical impact on our students beyond the first year. Toward this end, program directors might develop collaborative research projects with faculty from across their universities to better under-

stand what goals they do and do not share for assignments and outcomes and to closely examine how students interpret assignments from various courses.

NOTES

¹I recognize that some compositionists would argue that instilling transferable writing-related knowledge is not the goal of their FYC courses; my point is that our stakeholders expect transferable knowledge and skills to be the goal and if it is not, then we must find other grounds for requiring the course of all first-year students. Until then, we must take the Spellings Commission Report and other calls for public accountability to heart and discern what, in fact, our courses do provide to students that is of long-term value.

²It is possible that students don't need as much prep time for their assignments because they learned to conduct research and read scholarly articles in FYC. I can't be certain, though; I need more data to explore this possibility.

WORKS CITED

- Beach, King. "Consequential Transitions: A Developmental View of Knowledge Propagation Through Social Organizations." *Between School and Work: New Perspectives on Boundary-Crossing*. Eds. Terttu Tuomi-Gröhn and Yrjö Engeström. Boston: Pergamon, 2003. 39-61.
- Beaufort, Anne. *Writing in the Real World: Making the Transition from School to Work*. New York: Teachers College Press, 1999.
- Brannon, Lil. "(Dis)Missing Compulsory First-Year Composition." *Reconceiving Writing, Rethinking Writing Instruction*. Ed. Joseph Petraglia. Mahwah, NJ: Lawrence Erlbaum, 1995. 239-48.
- Carroll, Lee Ann. *Rehearsing New Roles: How College Students Develop As Writers*. Southern Illinois University Press, 2002.
- Carter, Michael. "The Idea of Expertise: An Exploration of Cognitive and Social Dimensions of Writing." *College Composition and Communication* 41.3 (1990): 265-86.
- Casanave, Christine Pearson. *Writing Games: Multicultural Case Studies of Academic Literacy Practices in Higher Education*. Mahwah, NJ: Lawrence Erlbaum, 2002.
- Downs, Doug and Elizabeth Wardle. "Teaching About Writing, Righting Misconceptions: (Re)Envisioning FYC as Intro to Writing Studies." *College Composition and Communication*, forthcoming.
- Foertsch, Julie. "Where Cognitive Psychology Applies: How Theories About Memory and Transfer Can Influence Composition Pedagogy." *Written Communication* 12.3 (1995): 360-83.
- Ford, Julie Dyke. *Knowledge Transfer across Disciplines: Tracking Rhetorical Strategies from Technical Communication to Engineering Contexts*. Diss.

- Goggin, Maureen Daly. "The Disciplinary Instability of Composition." *Reconceiving Writing, Rethinking Writing Instruction*. Ed. Joseph Petraglia. Mahwah, NJ: Lawrence Erlbaum, 1995. 27-48.
- Guile, David and Michael Young. "Transfer and Transition in Vocational Education: Some Theoretical Consideration." *Between School and Work: New Perspectives on Boundary-Crossing*. Eds. Terttu Tuomi-Gröhn and Yrjö Engeström. Boston: Pergamon, 2003. 63-81.
- Hagemann, Julie. "Writing Centers as Sites for Writing Transfer Research." *Writing Center Perspectives*. Eds. Byron L Stay, Christina Murphy, and Eric Hobson. Emmitsburg, MD: National Writing Centers Association Press, 1995: 120-31.
- Hatano, G. & Greeno, J.G. "Commentary: Alternative Perspectives on Transfer and Transfer Studies." *International Journal of Educational Research* 31 (1999): 645-54.
- Judd, C.H. "The Relation of Special Training and General Intelligence." *Educational Review* 36 (1908): 28-42.
- . *Education as Cultivation of Higher Mental Processes*. New York: Macmillan, 1936.
- . *Educational Psychology*. New York: Houghton Mifflin, 1939.
- Kain, Donna and Elizabeth Wardle. "Building Context: Using Activity Theory to Teach About Genre in Multi-Major Professional Communication Courses." *Technical Communication Quarterly* 14.2 (2005):
- Kitzhaber, A.R. "Death—Or Transfiguration?" *College English* 21 (1960): 367-73.
- Lave, Jeanne. *Cognition in Practice: Mind, Mathematics and Culture in Everyday Life*. Cambridge: Cambridge UP, 1988.
- Lave, Jeanne and Etienne Wenger. *Situated Learning: Legitimate Peripheral Participation*. Cambridge University Press, 1991.
- McCarthy, Lucille Parkinson. "A Stranger in Strange Lands: A College Student Writing Across the Curriculum." *RTE* 21.3 (1987): 233-65.
- Perkins, David and Gavriel Salomon. "Transfer of Learning." *International Encyclopedia of Education*. 2nd Ed. Boston: Pergamon Press, 1992. <<http://learn-web.harvard.edu/alps/thinking/docs/traencyn.htm>>
- Petraglia, Joseph. "Writing as Unnatural Act." *Reconceiving Writing, Rethinking Writing Instruction*. Ed. Joseph Petraglia. Mahwah, NJ: Lawrence Erlbaum, 1995. 79-100.
- , ed. *Reconceiving Writing, Rethinking Writing Instruction*. Mahwah, NJ: Lawrence Erlbaum, 1995.
- Russell, David. "Activity Theory and Its Implications for Writing Instruction." *Reconceiving Writing, Rethinking Writing Instruction*. Ed. Joseph Petraglia. Mahwah, NJ: Lawrence Erlbaum, 1995. 51-77.
- Smit, David. *The End of Composition Studies*. Carbondale: Southern Illinois UP, 2004.
- Sternglass, Marilyn. *Time to Know Them: A Longitudinal Study of Writing and Learning at the College Level*. Mahwah, NJ: Erlbaum, 1998.
- Thorndike, E.L. "Mental Discipline in High School Studies." *Journal of Educational Psychology* 15 (1924): 1-22, 83098.

- Thorndike, E.L. and R.S. Woodworth. "The Influence of Improvement in One Mental Function Upon the Efficiency of Other Functions." *Psychological Review* 8 (1901): 247-61.
- Tuomi-Gröhn, Terttu and Yrjö Engeström, eds. *Between School and Work: New Perspectives on Boundary-Crossing*. Boston: Pergamon, 2003. 19-38.
- Wardle, Elizabeth. "Can Cross-Disciplinary Links Help Us Teach 'Academic Discourse' in FYC?" *Across the Discipline* 1 (2004). <<http://wac.colostate.edu/atd/articles/wardle2004/>>
- Walvoord, Barbara and Lucille P. McCarthy. *Thinking and Writing in College: A Naturalistic Study of Students in Four Disciplines*. Urbana, IL: NCTE, 1990.
- Winsor, Dorothy. *Writing Like An Engineer: A Rhetorical Education*. Mahwah, NJ: Lawrence Erlbaum, 1996.

