9 Transferring Writing Strategies Across Disciplines and Levels: Results from a Longitudinal Study of Writing

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Abstract / Resumen / Resumo

Whether an educational system has a dedicated writing course, or students learn to write within discipline-specific courses, or if they are tutored in writing centers, writing teachers seldom know if students subsequently use the strategies they are taught. We report here the results from a three-year, longitudinal study of student writing that examined whether students transfer writing strategies they learn in a first-year writing class (FYW) at a U.S. research university to other genres in subsequent classes. Students' cumulative first-year writing portfolios were coded for evidence of the course's learning outcome strategies (SLOs). These results were then compared to written work completed in subsequent university courses and to brief questions students answered about the assignments as well as transcripts of participant focus groups. Findings suggest that students do transfer FYW SLOs to other genres, but also raised interesting questions about future research as well as about methodology in longitudinal studies.

Ya sea que un sistema educativo implemente cursos de composición, cursos de escritura en las disciplinas, o tutorías en centros de escritura, siempre es difícil determinar si los estudiantes usan las estrategias que les han enseñado. Reportamos los resultados de un estudio longitudinal de tres años en una universidad de investigación en EEUU en el que examinamos si los estudiantes transfieren las estrategias que aprenden en un curso de primer año (FYW) a géneros y cursos posteriores. Los portafolios de escritura de los estudiantes se codificaron en términos de evidencia de los objetivos de aprendizaje del curso

FYW. Estos resultados se compararon con trabajos en clases posteriores, con respuestas breves sobre estos trabajos y transcripciones de su participación en grupos focales. Los hallazgos sugieren que los estudiantes sí transfieren los aprendizajes del primer año a otros géneros. Los resultados también generan preguntas interesantes sobre las metodologías longitudinales y futuras investigaciones.

Quando um sistema educativo implementar um curso de composição, um curso de escrita nas disciplinas ou tutorias no centro de escrita, sempre será difícil determinar se os estudantes irão usar as estratégias que lhes ensinaram. Reportamos aqui os resultados de um estudo longitudinal de três anos em uma universidade de pesquisa nos EEUU no que examinamos se os estudantes transferem as estratégias que aprendem em um curso de primeiro ano (FYW) a outras tarefas escritas posteriores. Foram codificados portfólios de escrita para dar evidência dos objetivos de aprendizagem do curso FYW. Estes resultados foram comparados com trabalhos em aulas posteriores, bem como com respostas breves sobre estes trabalhos e transcrições de sua participação em grupos focais. Os achados sugerem que os estudantes transferem sim as aprendizagens do primeiro ano a outros gêneros. Os resultados também geram perguntas interessantes sobre as metodologias longitudinais e futuras pesquisas

In 1986 David Bartholomae claimed that

Every time a student sits down to write for us, he has to invent the university . . .. He has to learn to speak our language, to speak as we do, to try on the peculiar ways of knowing, selecting, evaluating, reporting, concluding, and arguing that define . . . the various discourses of our community. (p. 4)

Since then, many more researchers have studied negotiations of discourse communities and genres, and teachers of writing have crafted writing pedagogies to prepare students to write in and beyond the university. Despite this careful work, faculty across the disciplines still struggle with student writing—even after those students have taken a first-year writing class (Hesse, 2017). Whether an educational system has such a dedicated course, whether students learn to write within discipline-specific courses, or if they are tutored in writing centers, writing teachers seldom know if students subsequently use the strategies they are taught. The results from a three-year, longitudinal study of student writing described here add to a growing body of knowledge

on what students carry from one class in which they have learned to write, to another. Do they apply genre and audience analysis strategies, or do "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?" (Driscoll & Jin, 2018, p. 148).

Scholarship and the Curriculum: Our Research Question

This research project drew on scholars using a variety of perspectives to study how writing takes place within genres and activity systems, crosses borders, and is repurposed, as well as how genre approaches from any scholarly tradition (multilingual or literacy studies, sociolinguistics, rhetoric) affect the success of classroom pedagogy (e.g., Bazerman & Prior, 2003; Cope & Kalantzis, 1993; Lillis, 2013; Pennycook, 2007). Decades of scholarship conclude that students acquire writing skills developmentally, recursively, and through reinforcement in multiple contexts, building on foundational strategies as they write for new audiences and situations (e.g., Navarro & Revel Chion, 2013). Research also has broken down how students take up the language of the academy as they enter discourse communities (e.g., Motta-Roth, 2009; Russell & Ynez, 2003). As a result, writing pedagogies seeking to strengthen students' practices have been based on these studies (e.g., Anderson et al., 2016; Bazerman, 2013). Yet students still often believe that if they learn to write in one context prior to university, they can write well in any context. Changing this paradigm has been the work of writing-focused instruction worldwide, and, most recently, questions about how students respond to writing pedagogy has led to studies of transfer (e.g., Driscoll & Wells 2012; Nowacek, 2011; Russell & Ynez, 2003; Yancey et al., 2018).

Theoretical foundations resulting from studies of writing transfer have grown in the last fifteen years. Among these is Anne Beaufort's *College Writing and Beyond: A New Framework for University Writing Instruction* (2007), which draws on discourse community theory to urge attention to contextual elements that encourage transfer of knowledge from one writing situation to another. Rebecca Nowacek (2011) proposes that we design longitudinal studies to focus on integrative learning—the "how (and why and when) students connect learning in one domain with learning in another domain and how teachers can facilitate such connections." (p. 3) Wardle (2007) offers an example of studying writing transfer over time, and Jessie Moore (2012) presents an overview of transfer studies. *Writing Across Contexts: Transfer, Composition, and Sites of Writing* (Yancey et al., 2014) proposes attending to students' prior knowledge and Adler-Kassner and Wardle (2015) suggest that transfer can

be tracked by looking at threshold concepts. New lifespan studies of writing offer new ways to process how writing develops over time, an idea we return to in our discussion (Bazerman et al., 2018).

Complicating any study of writing transfer, however, are the multiple factors that go into student learning and that have often been elided in longitudinal and other studies. As Russell (1995) outlines, writing takes place within activity systems, which in themselves are complex, composed of actors and tools, historical contexts and other factors. Hogan, Ferris, and Whithaus, (2016) expand on Russell's work as they seek to measure "dynamic transfer," how students draw on current resources in new contexts in order to meet writing expectations. Learning in the first-year writing classroom is further complicated by students' varied concepts about writing, as well as their affective behaviors (Driscoll et al., 2017). In addition, our own faculty development meetings have demonstrated to us that the activity system is also formed by faculty who hold different understandings about writing that, in turn, inform their pedagogy. Nonetheless, for this longitudinal study of writing transfer, we wanted to take into account our particular institution with our specific curriculum and faculty in order to understand whether our student learning objectives and goals for the course were delivering on their promise: to teach students strategies that will help them write throughout college and beyond. Our primary research question—whether anything we taught students about writing was being used by them in subsequent classes—contained a subset of inquiries for us as teacher-researchers: what further questions should we be asking? Can we, realistically, trace writing transfer? From what methodological positions should we be building further research?

The curriculum developed for First-Year Writing (FYW) at our institution recognizes that "the protean tool called writing is appropriated and transformed by each activity system according to its object(ive)s and the material conditions of its work to evolve myriad genres within academia" (Russell, 1995, p. 60). However, we also recognize that while we can talk all we want about "our" FYW student learning objectives on which we say we agree, inevitably these are taught differently, with varying levels of effectiveness, by each FYW instructor. Moreover, they are taken up differently by the students we teach, complicated not only by previous writing instruction and experiences, but also by their affective orientations (Driscoll et al., 2017) and their metacognitive ability (Khost, 2017; Taczak & Robertson, 2017). In addition, if we are measuring the effectiveness of FYW student writing transfer, we have to consider that faculty assigning writing in other disciplines also have their own expectations and language about writing. These faculty seldom understand that "the protean tool called writing is appropriated and transformed

by each activity system" (Russell, 1995 p. 60); they assume that writing is generic and their students have already learned university writing skills in FYW. Thus, as Bartholomae indicated over thirty years earlier, students are still left to figure out how to apply what they have learned within their classes—often with little instruction on how to do so.

Since we know we can't teach students all the genres they need to know—and we couldn't anyway since genres don't operate as formulas—our FYW course claims to teach students how activity systems "give writing meaning and motive;" we propose to teach that this knowledge is transferable and useful for writing in the multiple and intersecting activity systems in which they participate (Russell, 1995), and we seek to teach them how to shift their writing strategies within contexts. But we wanted to find out if we could determine whether teaching students to understand how writing works in multiple academic and other contexts-—even from our varied disciplinary understandings of our learning objectives as writing instructors—is usefully applied after they left our instructional writing space.

Research Context and Demographics

UNC Charlotte is an urban university of 29,000 undergraduate and graduate students. Each year, around 2,700 undergraduates need to take FYW, a course typically required in US colleges and universities. These entering students reflect the demographics of our urban university: 75% are entering directly from high school (17-19 years old); 25% are adult students (20 years old or over) who may be returning to college after a hiatus, getting a college education after being discharged from the military, or entering college for the first time after starting a family, choosing a different career path, or for a variety of other reasons. While only 5% of our first-year students enter with Honors, 42% of our students are "first-gen," that is, the first in their families to ever attend college. The overall average weighted GPA (a score determined by high school grades) is 4.1 out of 5.0, quite high overall for an institution with a high average of first-gen students. About 60% are White, 17% Black, 2% are international students, and the remainder declare as Hispanic (9%), Asian (6%), more than two races (4%) or don't answer.

Our students do well with national standardized tests and the high school pedagogy that supports them, but often they enter university with a limited concept of and practice with research; they lack analytical and information literacy skills, and have not yet developed the critical thinking that leads to effective writing. FYW faculty scaffold instruction to teach these skills, but also work to shift students' paradigms about what con-

stitutes "good" writing; they focus on rhetorical and research strategies as skills applied in both digital-born and print texts. Central to this instruction is teaching students to transfer this knowledge and their strategies from one task to another, as well as from their FYW class to courses and writing assignments in other disciplines.

Methods

Purpose and Research Questions

The purpose of this study is to explore how effectively the five Student Learning Outcomes (SLOs) from a required first-year writing course transferred to subsequent courses over a five-semester period. Nineteen distinct participants submitted writing samples, completed surveys, and participated in focus groups. The five SLOs studied are: Composing Processes, Knowledge of Conventions, Critical Reading, Rhetorical Knowledge, and Critical Reflection.

Using a longitudinal approach, our study seeks to answer the following primary question: Do students use writing concepts and strategies taught in first-year writing in subsequent classes? We are interested in knowing if our curriculum and pedagogies are successful in promoting writing transfer to other courses. Secondarily, we want to understand what other questions we should be asking to best understand what students retain and transfer from a writing class their first year of college to their final year of undergraduate work. Finally, we are interested in knowing if the methods we have used realistically trace writing transfer so we can consider widening our study or considering other methodologies we could apply to better answer our research questions.

Participant Recruitment

This study took place at a large, urban research university in the Southeastern United States. After obtaining IRB approval, researchers asked first-year writing faculty if we could visit their classes to recruit study participants. During class visits, we explained the study, passed out information about how to participate and students either signed up on the spot or contacted us later to express interest. From the possible 2,129 students enrolled in first-year writing the semester of recruitment, 60 students initially expressed interest. Ultimately, 30% of those students (19) participated in the study. We coded 278 pieces of writing and the accompanying reflections students

submitted with that writing and conducted 20 interview sessions with focus groups. Participants were compensated with a $25 gift card for submitting their work and reflection and another $25 gift card if they participated in a focus group.

Data Collection

Participants' FYW portfolios were used as a baseline for this study. At the end of each term, participants uploaded writing completed in all classes to an individual and secure file in the campus' learning management system. The number of documents submitted varied by student and depended on what classes they took any one semester and on what was assigned in classes. However, we were interested in collecting any writing that students completed for any other course at our university other than FYW. This included formal essays, lab reports, reflective journals, short answer essays to assigned readings, etc.

Upon uploading their work, students answered a brief survey that consisted of questions about their texts. These were also collected and coded as part of this study. The survey questions that students answered with each writing submission were a combination of open-ended and drop-down menu choices. The questions were: Which submission is your strongest / weakest and why? Who is the audience for the piece? What was your writing process like? Did you receive feedback before a final draft (from peers, teacher)? Which writing strategies were most useful? The researchers applied the same codes and coding processes to these artifacts.

In order to understand more about the writing that students submitted to the learning management system site and the accompanying brief survey, we held a series of focus groups each semester. Participation in focus groups depended on whether participants had writing assigned during any one semester, whether they could find a time to schedule with a focus group and whether they chose to participate in a focus group at all. While some longitudinal studies follow one group of students or even one student over a number of contexts and years (Beaufort, 2007), we believe our participant-volunteer approach suited our population: students have busy schedules and a four-year commitment upfront would have seriously limited participants. However, influenced by Bob Broad's (2003) and others' approaches to data collection in the field (see Bazerman et al., 2009), we chose to see what would arise organically from non-enforced participation in focus groups or even submissions. Groups therefore varied in size from two to five participants. During the thirty-minute interviews, researchers asked

participants about which strategies and concepts they used from FYW in the writing tasks they had completed since leaving that class. Groups were asked preset questions, but interviewers then allowed students to respond and converse freely; these conversations were collected as recordings and interviewers also took notes.

Coding and Analysis

Using NVivo coding software (and later Dedoose), each FYW portfolio was initially coded for evidence of our writing program SLOs. This was to determine a baseline of student achievement overall, per the course's high stakes final document in which students themselves address what they know and understand about the SLOs—and how they arrange evidence for this knowledge as proof. Before coding portfolios or the submissions each semester, the primary researcher de-identified each submission. The researcher and research assistant then participated in ongoing collaborative coding methods as outlined in Saldaña (2013). The coders relied on intensive discussions of scores after each coding session to establish interrater reliability. Each piece of writing submitted was coded for each of the proficiency level of each SLO: Composing Processes, Knowledge of Conventions, Critical Reading, Rhetorical Knowledge, and Critical Reflection. A four-point scale was applied to each SLO: 1=emerging ability to evidence the SLO; 2=proficiency in evidencing a basic understanding of the SLO; 3=mastery of the SLO; 4=exemplary use and understanding of the SLO.

Focus groups were conducted each semester with a subset of volunteers who submitted their writing that term, so not always the same students each time. They were recorded, transcribed, and the same codes and coding processes were applied to phrases or discussion points that identified use of and knowledge of the SLOs. We triangulated the quantitative data gathered from coding the portfolios, papers and qualitative data gathered from the written responses to the drop-down menu (answered when students uploaded their papers) and from the focus groups' reflective interviews about writing strategies. Findings relevant to our research questions emerged from this aggregation of data, though of course we recognize the limitations of the study.

Limitations

The limitations of this study are varied. For one, our participant population fluctuated due to three primary factors: whether study participants were assigned papers during any one semester; whether they graduated or trans-

ferred to another institution; whether they chose not to participate. Two, our coding of students' responses to assignments in other disciplines is somewhat limited: we did not have the actual assignments to which students responded. For example, we often could not find evidence of composing processes only because we did not see drafts of work submitted as they were often not required, nor was much reflective writing about the composing processes required. While some of this information came through in focus groups, we realize that, in most cases, we coded evidence of our learning outcomes without all the information we might have wanted and, therefore, through our own disciplinary perspective. Three, our feedback from students occurred in retrospect, as they submitted their papers online and in focus groups at the end of the semester. Students were also aware that we were studying writing, and being in the project seemed to make them more conscious about their writing. Finally, our switch from the data-analysis software NVivo to Dedoose in subsequent semesters made the coding process and aggregation easier, but may have affected results between the first and second years.

Findings

Despite the limitations described, clear patterns emerged across the years. In this section we lay out the results from the study—expected and unexpected. Transcriptions from the focus group discussions were more informative and richer than coded materials. While all data was useful to some extent, we believe that the discussions that resulted from the study prove more beneficial to the curriculum and the campus community. We take that up in the Discussion section that follows.

Coded Assignments

Student writing was coded in areas that correspond with program SLOs: critical reading, genre knowledge, metacognition, and composing strategies. In addition, each identified SLO was assigned one of four competency levels: emerging, proficient, mastery, and exemplary. In year one, coding showed that student portfolios as well as papers submitted from other classes exhibited expected "emerging" and "proficient" levels. However, while it was relatively easy to see evidence in papers for "composing" in FYW where drafts are submitted, that was not the case in other courses where students only produced and submitted final products. Likewise, "critical reading" and "metacognition" were seen as emergent (46% and 42%) overall within papers from the first year since evidence of these are demanded in FYW, but

not in other classes, but it was difficult to measure these in final products submitted from other classes. Instead, it was much easier to see evidence of proficiency with genre conventions (56%) and rhetorical strategies (55%) in papers overall.

Results are not surprising as few entries beyond FYW were submitted the first year; we found students also weren't being assigned much writing in their second year at university. The writing that was assigned the first two years usually required only short responses: a paragraph in response to a reading, a template-driven lab report, a brief discussion post. This was a most important finding for the university as it showed that even in their second year, students 1) did not do extensive research and writing; 2) did not need to show evidence of their writing process; 3) were not often asked to reflect on their writing or strategies used.

Thus coding results were repeated in the second year, when students are still developing their writing: assignments showed students' abilities as still emergent (42% average) rather than proficient (21% average) in composing, critical reading and critical reflection, key elements of completed work. While more students were proficient in genre conventions and use of rhetorical strategies (42% average), 37% coded as emerging, across composing, critical reading and reflection; only 5% exhibited mastery (none exemplary). While 11% demonstrated mastery in genre conventions, only 2.2% were exemplary.

In the final year of the study, the two areas where coders saw the most use of FYW strategies were with rhetorical knowledge (52%) and genre conventions (average score of 53%). The least visible writing strategy from FYW was with composing (8%), which makes sense since we were receiving only final drafts of decontextualized work.

Coded Surveys

Information from the brief survey accompanying uploaded papers provides more information about the use of FYW strategies, ones that supported mastery of the SLOs. Students were asked: "Which of the following strategies did you use in your writing process most frequently this semester? Choose your top three" (table 9.1). While coding assignments didn't show evidence of critical reading in papers students submitted, students consistently responded that it was one of the most important strategies they employed. We also found that reliance on particular techniques varied from year to year, based, naturally, on the types of assignments students completed. Table 9.1 demonstrates that students shifted their reliance on strategies each semester, depending on the number and complexity of the assignments.

Table 9.1. Year Two and Three Comparison: Top Three Writing Strategies Used After Taking FYW

Choice of writing strategy	Year 2 / Fall 2016	Year 2 / Spring 2017	Year 3 / Fall 2017	Year 3/ Spring 2018
Critical reading of source material	81.8%	64.3%	70%	80%
Rhetorical analysis	45.5%	14.3 %	40%	10%
Analysis of audience, context and/or purpose	36.4%	28.6%	20%	30%
Inquiry-based research	54.5%	50%	60%	50%
Genre conventions	9.1%	7.1%	10%	20%
Critical reflection on your writing choices	54.5%	7.1%	50%	50%
Brainstorming techniques	63.3%	50%	50%	60%
Drafting and/ or revising	63.3%	64.3%	10%	90%
Peer review	45.5%	28.6%	30%	50%

Year two reflects the FYW emphasis on reading, rhetorical analysis, research, composing and metacognitive reflection. The variation in the strategies students use each term appears on the one hand to confirm that students are able to shift their writing strategies to meet the needs of an assigned task, but we are not so sure that claim would be valid, given the types of assignments students received. Even in year three, our participants reported that they wrote zero to only one or two extensive, complex papers and, as shown in the focus groups, several of those were formulaic. For example, a business memo or a short reflective piece in response to a one-sentence prompt.

Types of papers assigned also affected student perception of genre conventions. That coded papers increasingly exhibited higher proficiency in genre knowledge may be the result of genre conventions of their majors becoming tacit, so other strategies we see as the working elements of writing—those that students still had to think through, and, therefore, noticed. However, it may also be that those conventions were built into the assignments and therefore regulated. Our focus groups helped shed light on this.

Coded Focus Groups

From year to year, comments didn't vary, except that students became more articulate about their writing practices. Across the years it was not unusual to hear: "We haven't done much writing this semester." More often, students spoke of regimented, templated assignments:

> She [the professor] gave us a bolded list of exactly what she wanted, so I was able to kind of plan it out that way, and like, what I'll do is write, like, little bullets underneath what she wants us to talk about and then I'll turn it into a paragraph.

They exhibit their rhetorical, or school learned savvy, by writing "what she wants," but on the other hand, it's questionable whether such instructions actually teaches disciplinary genres:

> He [professor] knows what he wants and he'll tell you what he wants. And so he gave us an actual template to write our, uh, to write our little article on. He included four boxes . . . a box down below to recognize all the work that our engineer has done, and he said, 'Build this out, make sure you have the captions in Arial font, so many words, uh, on your review you have to have 300 words, same font, Arial Narrow.' It was very, very prescriptive.

Time and again, across disciplines, we heard students casually note that they wrote without considering anything but the template given. The richest and most varied assignments came from internships: "the first two and a half months, we just finished our training and about 50% of the time we were writing papers . . . So we had to learn more about the bank and how it works and the lines of businesses and etc." However, a student about to graduate noted that "I've had two papers that were short papers and then everything else has been like extra credit and like optional papers."

Though revision and critical reflection are key FYW components, it was not unusual to hear "So she did give us feedback but we weren't required to revise it or turn it back in." One participant commented that students just use their notes to write to an assigned topic "and the computer grades it." However, when students have opportunities to revise, especially advanced students, they report reading through instructor's comments:

> as a whole and see what I can work on, cause she would do like specific notes and then general notes as a whole that she

would notice from the class that we all did, so I would address those to the whole paper itself.

Students' composing processes ranged, as expected, from the last minute procrastinator to the carefully scripted writer:

> I look at the criteria that my professor is looking for, like what kind of information she wants in there, . . . I'm gonna start with an introduction, so this is an overview of what I'm talking about, conclusion is just summarizing what I've already talked about and what I've learned, that's kind of where I put that in there, and everything in between I will use the criteria, so ok this topic can go in this one, this one can go in this one, and I'll start out with an outline. . . .And then once I formulate, once I think about what I want to write, I'll go back and I'll use what I already have written, the topic, and just format everything, and then go back and review everything a couple times, grammar checks, peer review, etc.

As they progressed in their education, students noted their increasing reliance on critical reading, the importance of inquiry in research and their audience awareness. However, focus groups also revealed a reliance on peer review that didn't emerge in coding nor in the survey. Students articulated a change in their orientation toward writing:

> I guess, because I was thinking that my writing was perfect the first time, but it's not always. . . . I've become way more accepting of [peer review] and like in two of my classes it's become required anyway so, you know, seeing how it sounds when you read it out loud with someone else and it's like, 'Oh that sentence doesn't really sound right, so maybe I should cut that.' So, you know, just things like that. Listening to what other people think about your writing.

Students report that they often

> run things by like friends and stuff like that or I'll read my essays out loud. I tend to, like if I read it in my head, it sounds fine, but if I'll read it out loud I'll kind of stutter over parts of my sentence or it'll sound different.

One student had his "computer read it back to me, cause even when I'm

reading, like sometimes it may say 'the' twice but I'll only read it once, so I'll have it play and it'll say 'the the' and I'm like what?"

When asked directly about transfer of writing skills from FYW to current assignments, we certainly did get the comment, "I can't really remember that much of FYW…sorry." Yet later in the same interview, this student also said: "Yeah, I mean at the time I just swore up and down that peer review wasn't helpful but now I'm seeing that it's very helpful." Students connected peer review with brainstorming, not just revision, and provided further insight into reasons for their processes:

> I think having your classmates review your work is one of the strongest ways that you can better yourself as a writer, um, because you can sit here all day and get feedback from your professor and you might understand half of what they're saying, but I just feel like with your classmates, it's just more of a personal type of connection, they know how…like what level you're at because they're at the same level. And just like that you can collaborate and help each other out.

Brainstorming and peer review often surfaced together: "I didn't really know how to brainstorm [prior to FYW], I would just jump right into it." Brainstorming was also valued for "looking at writing as an outlet for what you want to talk about and then like diving into more of the details." This reliance on peers and brainstorming increased over time, tracking closely to the survey results collected. As one senior student said, "I feel like I never actually used any of these [FYW strategies] . . . like the only technique that I've been consistent with is the brainstorming part, but like everything else, I feel like I'm using more now this semester."

One other factor emerged in focus groups, as well as outside of the usual data collected. In two instances, students contacted us the summer before fall classes started, asking if we were again collecting papers. Each were looking forward to the semester, since they were going to take classes with more writing in them. This points to the element within the focus groups that is clearly a factor in our and other longitudinal studies: when there is contact with participants through interviews or focus groups, they become more mindful about their writing. We heard our students become more articulate about their writing the longer they participated, and it may well be that our discussions provided the cognitive space for them to reflect on their writing in ways they might not otherwise have done. This surely affected the richness of our conversations, their thinking, their use of vocabulary about their writing, and our, and other longitudinal researchers' interpretations overall.

Discussion

Evidence that students lack experiences writing after FYW reinforced our assumptions that students don't have opportunities to practice and thus have few opportunities to transfer writing strategies over time; this is certainly a factor in the lack of student writing proficiency later in the university. It also explains a number of national workplace surveys calling on better proficiency in writing. If students are not given many opportunities to apply what they learned right after taking FYW, there is no reinforcement of learning, crucial to transfer of knowledge. Furthermore, as other data indicated, the types of writing assigned did not often provide students agency, so they had fewer opportunities to critically decide which strategies to apply to a new task or one seemingly familiar.

In an attempt to foster some learning transfer to at least the sophomore-level writing class that students take after FYW, we created a glossary of terms used in FYW that we derived from a faculty survey of most-used terms and their definitions. We distributed it for use in key second year general education courses in the university and made it available to departments or Colleges with which we interact. We stress that the vocabulary represents concepts they should expect their students to know or at least have heard of. We stress that we are not asking them to adopt our terminology but rather reference it or make explicit the similarities or differences to their own writing expectations in order to encourage transfer. We continue to seek other ways to link what we teach in FYW with writing across campus and have been thoughtful about what more we need to know about assigned writing outside of FYW. This has made us rethink how we approach any future longitudinal study.

Data collected through coding texts or surveys proved not as rich as the focus groups. That could well rest in what we coded for since critical reading, reflection and composing processes are difficult to pinpoint in a paper for which you have no assignment, no classroom directions that may have been given, and no instructor input. Any future study would be crossdisciplinary, include faculty from other disciplines in the study and likely focus on one discipline. Contextualization of writing assignments would help us understand the fluctuation in strategies students employ at any one time. Interviewing students individually could also center around a single contextualized text.

That being said, the data did prove useful for our FYW faculty, students, and curriculum. Since we could not see evidence of critical reading in data collected the first year, we asked FYW faculty how they were teaching and measuring critical reading: the initial silence and lack of response showed us all a gap that needed addressing. We focused the following year's faculty development on critical reading theory and pedagogy, invited an expert to

campus to conduct a workshop, emphasized reading as a theme in our annual regional conference and invited a reading scholar as keynote. We held in-house discussions about reading that impacted the results in portfolios that year: it was much easier to recognize evidence of students' critical reading ability. Positive results in that area not only increased but have remained high, as measured in annual portfolio assessments. However, we don't know whether and how critical reading is supported once students leave FYW, even as students report it is one of the most used skills thereafter.

However, to those of us in FYW, this study has made apparent the need for us to more explicitly draw students' attention to elements of transfer. While in retrospect we shouldn't have been surprised, we found students in our study still possessed a narrow view of "writing." In one focus group a student declared she'd done little writing that semester, yet she was a computing and informatics major. When asked if she wrote code, she went on to say "Oh yes, lots of code. Oh, and then we have to justify why we wrote it the way we did, and . . . oh, I guess I did a lot of writing." Asked if she had uploaded the texts? She hadn't. We realized more and more that we weren't capturing all the writing students might be doing, suggesting to us that a more ethnographic approach to studying writing on campus would prove valuable.

Checking our own faculty's use of vocabulary and especially our own disciplinary screens with which we approach writing has proven the most valuable lesson of this work. Partnering with colleagues in other disciplines, enlisting those faculty to norm and help code, focusing on a particular transition year (perhaps first year to second), and including disciplinary faculty in interpreting data, seem the most important next steps learned from this study. We also believe that the design as well as the study of results would benefit from student involvement, perhaps using writing about writing pedagogy (Bird et al., 2019) to teach transfer across a university's curriculum by assigning students collaborative longitudinal research projects more in line with lifespan writing studies (Bazerman et al., 2018) that will serve them into their futures as well as researchers.

We are not in a position to work across campus systematically, but we have reported on our findings at every appropriate opportunity. Our study did produce new alliances on campus, one with the Office of Assessment that helped with focus groups, statistics and transcription. Their involvement in this study shifted their understanding of what we value in writing assessment as well as their understanding of how writing proficiency might be measured. Their interest and campus-wide responsibility for creating assessment measures affected institutional attitudes toward writing and curricular assessment across disciplines.

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