

EMERGENT DESIGN: TRACING AND STUDYING
KNOWLEDGE TRANSFER THROUGH COMPOSITION NETWORKS

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ABSTRACT

E. Ashley Hall: Emergent Design: Tracing and Studying Knowledge Transfer through
Composition Networks
(Under the direction of Daniel Anderson)

In recent years, composition scholars have taken an interest in studying the transfer of writing-related knowledge. This dissertation takes up the question of writing-related transfer within the larger context of education reform, examining our assumptions about transfer, our teaching practices, and our methods for studying writing-related transfer. I make contributions to the field of rhetoric and composition by proposing emergent design, a theory and method for studying writing-related transfer, and by offering three possible pathways for composition teachers who want to teach for transfer.

In chapter one, I analyze the rhetoric of education reform using selected texts published during the thirty-year period between 1983 and 2013 to demonstrate how four-year public colleges and universities in the U.S. faced a version of what Harvard Business Professor Clayton Christensen calls “the innovator’s dilemma.” I take up appeals for education reform as case studies to examine how the discursive framing of problems and solutions shapes beliefs concerning the need for education reform and the subsequent course(s) of action that should be pursued. My analysis reveals that transfer--the movement of knowledge or skill from one domain to another--is a

fundamental underlying assumption about the purpose of higher education.

In chapter two, I survey the history of transfer studies to support my position that the concept of transfer provides a rhetorical warrant in discourses of education reform. I first offer my working definition of transfer and provide a survey of major debates about transfer. I then show that transfer studies routinely produce results that fail to provide evidence that the hypothesized transfer occurred. I argue that this problem is caused because researchers are expecting one kind of transfer (high road) and therefore designing hypothesis-driven experiments to look for it; our teaching practices, however, more frequently assume a different kind of transfer (low road). I show how acknowledging this contradiction can explain why so many studies fail to demonstrate transfer. I conclude the chapter by discussing the relevance of this problem to the field of rhetoric and composition. I do so by showing that we lack a suitable method for investigating high road and low road transfer of writing-related knowledge and skills.

In chapter three, I present emergent design as a research method for studying writing-related transfer. The chapter opens with a description of emergent design as a method for studying recent changes to the composition curriculum at the University of North Carolina, Chapel Hill requiring all first-year students to take English 105. I analyze the proposal for the new course, arguing that Writing Program administrators used two competing beliefs about transfer to rationalize and justify the curricular change. To extend previous studies of transfer, I designed a three-phase study focused on the implementation of UNC's curricular changes to first-year composition, which

were in part designed to promote transfer. I analyze the results using emergent design and compare my findings to other studies of writing transfer.

Chapter four contributes to emerging efforts by composition and rhetoric scholars to promote transfer from first-year composition to future rhetorical situations. I extend previous research on transfer studies by theorizing and proposing a series of transfer-oriented pedagogical interventions for use in first-year composition courses: (1) developing genre-based writing assignments, (2) using design plans to prompt metacognition, and (3) providing students with opportunities to conduct undergraduate research.

Dedicated to my mother Nan Hall and to my partner Jen Ware

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CHAPTER ONE

PROBLEMS AND SOLUTIONS: DISCOURSES OF EDUCATION REFORM

The Innovator's Dilemma in Higher Education

In October of 2010, creativity expert Sir Ken Robinson delivered a TED¹ Talk entitled “Changing Education Paradigms.” Robinson began his talk by asserting that, “every nation on earth, at the moment, is reforming public education” (Robinson 00:17). While this claim might be over-stated (certainly there are places where public education is not actively being reformed), the claim underscores the tremendous attention being paid to the “problems” in contemporary educational systems. Critiques of higher education in the U.S. have come from a wide range of sources including journalists publishing in mainstream media outlets such as *The New York Times*, professors and administrators publishing in academic journals and trade magazines such as *The Chronicle of Higher Education*, and commissions issuing government reports.

Sir Robinson, astutely I believe, points out that one of the main obstacles currently thwarting educational reformers is that “they’re trying to meet the future by doing what they did in the past” (Robinson 1:10). This is what Harvard Business Professor Clayton Christensen calls “the innovator’s dilemma” within the context of

¹ According to ted.com/pages/about the nonprofit organization known as TED “started in 1984 as a conference bringing together people from three worlds: Technology, Entertainment, Design” (hence the acronym TED).

business and industry. Christensen's thesis is that once companies gain and hold dominant positions in the marketplace, they are incentivized to continue the practices that led to their initial success. The development of new practices or products that might disrupt the established business model is more difficult. As a result, market-leading companies tend to shift from a creative and forward-looking posture to a more conservative stance in which they are apt to maintain the status quo. Christensen argues that these factors lead to the innovator's dilemma, a situation in which creative opportunities are consistently overlooked.

Although Christensen focuses his analyses on corporate examples, many of the conclusions he draws may also be applied to the university system, and especially to attempts to reform higher education over the past thirty years. In other words, as Sir Ken Robinson puts it, when today's institutions of higher education try to meet the demands of the future by doing what has served them well in the past, we can say that they face their own version of the innovator's dilemma. This is not to say, however, that there is a lack of desire for innovation.

Calls for education reform are frequent and widespread. We can find one example in an October 2011 *Inside Higher Ed* article written by Jeb Bush, the former governor of Florida, and Jim Hunt, the former governor of North Carolina. Bush and Hunt argue that educational innovation should be the outcome of the budget cuts colleges and universities continue to face. They explain, "[r]ising costs and reduced government funding in the wake of an economic recession have resulted in financial burdens that our state universities have never known before, and it is clear that funding

is unlikely to return to pre-recession levels” (Bush and Hunt). This observation led them to embrace professor Ralf Wolff’s claim that “[o]ur business model is broken” (Bush and Hunt).

More recent news may, in fact, lend credence to this claim. An *Inside Higher Ed* article published on October 29, 2013, entitled “The End of History?” reports that Elizabeth City State University, an historically black college that is part of the larger University of North Carolina system, is considering the elimination of degree programs in history, physics, and political science (Rivard, n. pag.). The impetus for this change is not pedagogical but rather financial, a result of funding declines and enrollment shortfalls, according to Provost Ali Khan (Rivard, n. pag.).

In response to the rising costs of face-to-face education that have grabbed national attention and resulted in what Wolff termed a broken business model, Bush and Hunt advocate greater adoption of online courses as an innovative solution. Bush and Hunt argue that “[t]his new technology-powered business model meets the needs of tech-savvy, far-flung, diverse student populations with minimal investment in infrastructure, since dormitories, laboratories and classrooms are not needed for this model to deliver real results” (Bush and Hunt). To support this claim, Bush and Hunt cite two studies, one which they attribute to the U.S. Department of Education and another co-authored by Yoram Neumann, who is the president and CEO of the United States University, a for-profit school with campuses in San Diego and Orange County, CA, and with many online course offerings. Bush and Hunt point to both of these reports to support their appeal for greater adoption of online courses and cite

evidence from these studies that shows positive learning outcomes achieved through online courses. Thus, rising costs resulting from a broken business model are framed as the problem and online courses that cut costs are framed as the solution.

While Bush and Hunt group both reports together to support their argument, the two are substantially different in terms of both authorship and findings. The report they describe as the U.S. Department of Education's (DOE) was actually prepared *for* not *by* the DOE. Instead, The Center for Technology and Learning, which, according to its web site² performs research and development for government and business and which lists the Department of Education as one of its clients, is responsible for the authorship of the first report. In fact, placed above the publication and copyright information for the report there is the following disclaimer:

This report was prepared for the U.S. Department of Education under Contract Number ... The views expressed herein do not necessarily represent the positions or policies of the Department of Education. No official endorsement by the U.S. Department of Education is intended or should be inferred. (Center for Technology in Learning ii)

While Bush and Hunt misattribute authorship of the report to the Department of Education, the research methods used to compile the data and present findings in this report were rigorous. For example, the research team reviewed more than one thousand empirical studies of online learning and “found that, on average, students in online learning conditions performed modestly better than those receiving face-to-face

² (<http://www.sri.com/about/organization/education/ctl>)

instruction” (ix). Although the Center for Technology and Learning is a private firm contracted by the government to conduct research, it can be described as somewhat more impartial than Yoram Neumann, who stands to benefit³ personally and professionally from persuading readers that online education is overwhelmingly more effective than face-to-face instruction. Given Bush and Hunt’s (incorrect) reliance upon the ethos of the U.S. Department of Education and their description of Mickey Shachar and Yoram Neumann as “internationally known scholars,” the evidence used to support their appeal for a widespread adoption of online courses as an effective and innovative cost-cutting measure is dubious at best.

Despite the questionable nature of their evidence, Bush and Hunt’s more general appeal for the exploration of technology as a means to accomplish education reform is worth examination. Public colleges and universities currently face a wide range of challenges, many of which do involve technology. Some technological challenges are cultural, while others are logistical, and still others are primarily economic. And new technologies are, or can be, useful resources for those interested in reforming higher education. However, shifting courses online as a cost-cutting measure is not necessarily

³ By contrasting the findings of the two studies we can see evidence of a significant discrepancy. Whereas the report prepared for the DOE found modest performance increases related to online instruction, the article linked from Bush and Hunt’s piece (which was published on a web site called *Enhanced Online News*) begins with the sentence: “A recent study has revealed that 70 percent of the time students taking courses through distance education outperformed their student counterparts in traditionally instructed courses.” This conclusion is intended to be persuasive, and if successful would likely benefit the broad market segment of for-profit education institutions such as the United States University (even if the benefit was not directly to Neumann’s own for-profit school).

the single best solution for meeting “the needs of tech-savvy, far-flung, diverse student populations.” In fact, while this proposal fits neatly into the problem-solution arrangement of Bush and Hunt’s argument, their assertion that “today--right now-- colleges and universities must embrace new digital and online delivery tools to make educational content available to degree-seeking students wherever they are, whenever they need it” smacks of technological determinism and evinces a rather simplistic notion of the role technologies (both old and new) play in student learning within institutions of higher education.

Bush and Hunt’s focus on the online delivery of content instead of, for example, on how online environments might foster collaboration or enable greater dialogue between students and teachers is only one manifestation of the simplistic view of technology they adopt. Additionally, Bush and Hunt’s view of relevant technology for education reform as exclusively digital and online is overly narrow. Instead, Clayton Christensen’s broader definition of technology as “the processes by which an organization transforms labor, capital, materials, and information into products and services of greater value” is useful, especially when we understand the differences between sustaining technologies and disruptive technologies (xiii). According to Christenson, sustaining technologies “foster improved product performance,” whereas disruptive technologies tend to “result in *worse* product performance,” especially over the short term (xv). However, disruptive technologies, Christensen argues, “bring to market a very different value proposition than had been previously available” (xv). By understanding the crucial role that disruptive technologies play in innovation, we can

see that Bush and Hunt's push for widespread adoption of online courses as a cost-cutting measure is not actually innovative. Instead, it provides an example of the innovator's dilemma in higher education. I will return to this point after first establishing that discourses of education reform have faced a similar version of the innovator's dilemma for at least the past three decades.

The rhetoric of education reform published during the thirty-year period between 1983 and 2013 demonstrates how four-year public colleges and universities in the U.S. face a version of the innovator's dilemma. Appeals for education reform reveal how the discursive framing of problems and solutions shapes beliefs concerning the need for education reform and the subsequent course(s) of action that should be pursued. Further, transfer--the movement of knowledge or skill from one domain to another--is a fundamental underlying assumption about the purpose of higher education. Case studies show that (often unstated) assumptions about transfer function rhetorically as warrants. Rhetorician Steven Toulmin theorized the role warrants play in his canonical work *The Uses of Arguments*. According to Toulmin, a warrant provides the logical basis that brings together, or as he puts it creates a "bridge" between, a claim and the evidence used to support it (98-99). Transfer is frequently the connecting logic in arguments concerning education reform. In the last chapter, I return to Christensen's concept of disruptive technologies, offering three pedagogical interventions as disruptive technologies designed to facilitate writing-related transfer.

Using Business Concepts to Analyze Discourses of Education Reform

Understanding critiques of higher education by borrowing language and concepts from business management, as I propose in this project, is not altogether without precedent. We have already seen an example of this in how Bush, Hunt, and Wolff all use language and concepts borrowed from business management to critique American institutions of higher education. Professor David Hartley of the Department of Education at the University of Oxford observes that “[m]anagement theory in education tends to be ‘imported’ from management theory in business” and notes that the inverse does not generally occur (Hartley 788). Hartley explains

In the immediate aftermath of the 1973 oil crisis ... managerial rhetoric in education had been broadly normative. Professional accountability was to prevail until the early 1980s before it met a steady stream of incremental changes whose purpose was to enable an economic neo-liberal ideology by the deployment of rational⁴ or control rhetorics. (788)

Hartley shows how the discourses of business management are appropriated by those within educational institutions. Furthermore, Hartley’s work suggests that rhetorical analysis can help us understand how the language used to call for education reform in turn shapes policy and influences public opinion. We can see this shaping by examining *A Nation at Risk*, a report published in 1983 by the National Commission for Excellence

⁴ In Hartley’s analysis, normative rhetoric “appeals to the social and emotional needs of employees” and is juxtaposed with rational rhetoric, which “is all about standardization, hierarchy, audit, performance management and efficiency” (786).

in Education (NCEE) at the request of Terrel H. Bell, Secretary of Education during Ronald Reagan's first term in office.

Communication scholars Sandra Hunt and Ann Staton have argued that *A Nation at Risk* "catapulted the issue of educational reform into the public sphere" (271). They further note its significance within the civic arena by observing that "[n]ot since the Soviet launching of Sputnik in 1957 [had] the topic of educational reform figured so prominently in American public discourse" (271). Holly McIntush agrees, commenting that "what cannot be overestimated is the influence this document [*A Nation at Risk*] has had on public discourse" (McIntush 420).

Bell, who convened the commission responsible for authoring *A Nation at Risk*, describes the responses to the report as "overwhelming," reporting that the document's "impact far exceeded my highest expectations" (Bell *Thirteenth Man* 131). According to Peter Hlebowitsch, the report itself directly reached "an estimated audience of 5 million readers" (84). The text was also discussed much more broadly in the public sphere. Bell comments on the wider media attention the document received:

Our press clipping service revealed that the commission's report was on the front page of all the major newspapers in every city--small, medium, and large--across the nation. Editorials appeared the next day. The news on the three major TV networks featured *A Nation at Risk* ... Newspapers printed the full text of *A Nation at Risk* in their Sunday editions.

Syndicated columnists discussed aspects of the report. The follow-up on its various recommendations kept the small blue booklet before the public

day after day. (Bell *Thirteenth Man* 131)

Hunt and Staton suggest that “[b]ecause of the role the mass media played in disseminating the report, the Commission’s work became a ‘rhetorical opportunity’ for the Reagan administration” (285). This definition of *A Nation at Risk* as a rhetorical opportunity supports Hunt and Staton’s related position that “communication about educational reform--as manifest not only in [*A Nation at Risk*] but also in the replies it generated--is inherently persuasive and, hence, rhetorical” (278). *A Nation at Risk* attracted tremendous attention both in the mass media and in professional journals, acting as a catalyst for national awareness of the need for and interest in education reform.

Background and Context for *A Nation at Risk*

When *A Nation at Risk* was published in 1983, the issue of education reform was far from a national priority for elected officials. Drawing from historian Margaret Marshall’s study of education discourse at the turn of the nineteenth century, McIntush explains that “often low on the true priority list, [education] is a topic that is constantly on the nation’s political agenda” (419). In other words, presidential candidates tend to present themselves as being supporters of education regardless of whether their actual platform reflects this position. This was true in the late 1970s and early 1980s when Ronald Reagan campaigned for and was elected to office for his first term. After campaigning on a platform focused on reducing the size of the federal government, Reagan’s political agenda “promised to eliminate the cabinet-level Department of Education” (Hunt and Staton 272). That, however, did not happen.

Bell contends that the “overwhelming” response generated by *A Nation at Risk* prompted Reagan to reverse course on his plan to downgrade the department’s cabinet-level status and cut its funding. Bell explains that after attending a series of conferences hosted to discuss the report (some of which were also attended by President Reagan), discussion of the planned cuts abated until after Reagan was elected to a second term.

Bell recalls:

Following the release of the report and this series of conferences, I heard no more about abolishing the Department of Education. Even David Stockman, director of the Office of Management and Budget, said in a subsequent Cabinet meeting called to plan federal spending cuts that the “sensitive area of education” should be exempted from the budget cutting.
(Bell "Reflections" 593)

Bell describes the ways that *A Nation at Risk* shaped education policy:

Even David Stockman joined the chorus. The notes I scribbled on the face of a subsequent cabinet meeting agenda indicated that he gave the usual admonition to the cabinet to send in budget cuts for the next fiscal year that would drastically reduce expenditures. But he added an unprecedented concession: “The sensitive issue of education is an exception, of course.” ... The huge cuts proposed to Congress in previous years were not mentioned when we worked with OMB on the next budget. What a difference! What a contrast were these priorities for spending!
(*Thirteenth Man* 131)

Bell's account of how Reagan and Stockman responded to the national interest in education reform sparked by *A Nation at Risk* make the document's immediate political impact clear.

As McIntush points out, "*A Nation at Risk* was not a temporary sensation" (421). For example, Hunt and Staton explain that "[i]n the months and years that followed the release of [*A Nation at Risk*], educational reform action was taken by other constituencies, including legislative, gubernatorial, judicial, executive, corporate. ..." (275). One year after *A Nation at Risk*'s initial publication, the U.S. Department of Education published a follow-up report titled *The Nation Responds*, "a state-by-state profile of reforms implemented since the release of [*A Nation at Risk*]" (Hunt and Staton 275). While many of the responses to *A Nation at Risk* were positive,⁵ there were also some biting critiques. Hunt and Staton found that responses that evaluated *A Nation at Risk* also critiqued its recommendations, its assumptions about teachers, and the accuracy of the data used (279).

Among these critiques was William Gardner's response to *A Nation at Risk*. Gardner wrote, "Because I operate on the assumption that the value of reports such as this is the critical discussion they generate, discussion which in turn generates action, I want to enter several comments in the areas where I think *Risk* is weak or flat-out wrong and expand the debate in what I think are new directions" (13). Gardner then goes on to enumerate the problems he perceives in the report (such as the report's misidentifying the problems facing education altogether and providing overly

⁵ See Fowler (1983) for a biting critique of the positive responses.

simplistic solutions to address intensely complex problems) and uses them as an occasion to present an opposing argument. Gardner was not the only scholar to reply in this way. Another example of the back and forth dialogue can be found in a 1983 issue of *The Elementary School Journal*, which published an excerpt of the *A Nation at Risk* report followed by three “reaction papers” (Slavin; Bossert; Hall). Robert Slavin of Johns Hopkins University, for example, questions the entire premise of the “risk” the National Committee on Excellence in Education asserts in *A Nation at Risk* by questioning the committee’s reliance upon declines in SAT scores as a measure of education crisis. He contextualizes his critique by explaining that simply reporting declining scores fails to account for broader socio-cultural factors such as a national effort to increase graduation rates. As a result of this focus on countering attrition, Slavin explains that “[t]he great majority of the additional students retained in high school were drawn from the lowest-achieving segment of the student population, who would have formerly dropped out of the system much earlier” (132). Thus, according to Slavin, the declining SAT scores are more reflective of success in a different area of concern, “the positive trend that few Americans would wish to reverse: universal access to a high school education” (Slavin 132).

In response to critiques such as these, additional clarifications and justifications were published by Bell and by members of the National Committee on Excellence in Education. According to Hunt and Staton, “[a] ‘dialogue’ was thus created as [the National Committee on Excellence in Education] members moved to defend, clarify, and reinterpret the document in light of the concerns raised” (281). The publication of *A*

Nation at Risk was thus not only a rhetorical catalyst that shaped the policies of the Reagan administration but also an opportunity for education reform discourse from both sides.

That *A Nation at Risk* became a centerpiece of national attention is indisputable. What is less clear is whether the reforms proposed in the report were innovative solutions to the problems it outlined. Next, I analyze the rhetorical problem-solution arrangement structure of the report to explain how this document is an example of the innovator's dilemma in higher education.

Framing Problems in *A Nation at Risk*

Scholars who have studied the language and rhetoric of *A Nation at Risk* "portrayed it more as a political document than a blueprint for reform" (Hunt and Staton 279). These political dimensions emerge in the greater rhetorical emphasis placed on the language used to frame the problems than on the language used to invent, describe, or advocate for specific solutions to those problems. For instance, August Franza, a teacher from Miller Place High School in New York, characterizes the framing language in *A Nation at Risk* as "hyperbole" and "scare words" (Pedersen et al. 24). William Spady notes that the report's terms are "powerful and persuasive" and points out the political "fallout" they prompted. James Albrecht was more biting in his critique, saying that the rhetoric of *A Nation at Risk* contained "seeds of immense mischief" (684). Bell defends the tone adopted in the report, stating, "such strong language had an electrifying effect on the American people" ("Reflections" 593) and noting that, as a result of this language use, "education [became] a major, high-priority national concern,

as well as a state and local responsibility” (594). Moreover, Bell explains that this outcome was precisely what the report’s authors desired: “The intent of *A Nation at Risk* was to call the attention of the American people to the need to rally around their schools” (“Reflections” 593). TheodoreSizer, an education reform scholar from Brown University who largely disagreed with the National Committee on Excellence in Education’s recommendations, seemed to concur with Bell’s assessment of the rhetorical strategies used to frame the problems in *A Nation at Risk*. In an interview with Gelareh Asayesh, Sizer notes that “the purple rhetoric of the report was a thunderclap and that was great” (Asayesh 13). However, the document may have been more effective politically than as an agent of educational change: “I don’t think it was on target substantively, but it certainly was on target politically ... the political judgment of how to express the problem was absolutely sound” (Asayesh 13). Still, not everyone who critiqued the report’s substance found the rhetorical framing of problems so effective. For instance, according to Franza, the National Committee on Excellence in Education’s rhetorical strategies led to problems in logic that included “double think” and weak arguments based almost entirely upon appeals rooted in pathos used to generate reactionary fear among readers. Franza found these strategies ineffective, concluding, “[s]omeone might say the language is necessary to draw attention to the findings. But if attention is gained at the expense of credibility, no lasting effect is possible” (Pedersen et al. 24). Bell, however, links the strong language to reform efficacy, pointing out that “[t]he states responded to *A Nation at Risk* with a flurry of legislative action establishing mandates, ‘accountability’ directives, and various other changes in education policies”

("Reflections" 593).

Ultimately, however, Bell and Franza agree on the report's very limited impact on day-to-day teaching and learning practices. Franza suggests the rhetorical hyperbole limited the report's credibility while Bell maintains that the report had been rhetorically effective because it was successful in gaining (and holding) the public's attention. Bell also views it as politically successful because it was able to prompt legislation focused on education reform. Where it fell short, Bell concedes, is the framing of solutions.

Framing Solutions in *A Nation at Risk*

The popular response to *A Nation at Risk*, especially in the mass media, was overwhelmingly positive (Fowler; Gardner). In addition to the depictions presented by Bell (discussed above), Fowler notes that "[m]ore astonishing than the content of the report ... has been the reaction to it--'praised,' 'warmly embraced,' 'hailed,' 'long awaited'" (43). The scholarly response from teachers and administrators at the primary, secondary, and post-secondary levels was strikingly more critical. The bulk of such criticism concerned the content of the report and, in particular, the solutions it proposed. The framing of solutions within *A Nation at Risk* shows how educational reform can be understood in terms of the innovator's dilemma.

The commission's findings were grouped into four categories: "content, expectations, time, and teaching" (National Commission on Excellence in Education 18). After providing an overview of the problems comprising each category, the proposed solutions to each category were presented in the "Recommendations" section of the report. The "Recommendations" section begins with a prelude in which the National

Committee on Excellence in Education states that “the topics are familiar” and “there is little mystery about what we believe must be done. Many schools, districts, and states are already giving serious and constructive attention to these matters” (23). So, after loudly ringing the alarm bells and eliciting an emotional response grounded in the fear that “Our nation is at risk,” the National Committee on Excellence in Education seems to say, “but we already knew that and we’re already working to solve this problem.” Both the language used to frame the solutions and the solutions themselves thus led some to remark that there was nothing new in the report (Block; Finn; Spady) apart from ineffective “quick fixes” (Albrecht 684; Goldman 24) or what Gordon Donaldson described as “a dangerous smokescreen” (29).

The first example of this familiar fix phenomenon can be seen in “Recommendation A,” focused on content. The commission wrote:

We recommend that State and local high school graduation requirements be strengthened and that, *at a minimum, all* students seeking a diploma be required to lay the foundations in the Five New Basics by taking the following curriculum during their 4 years of high school: (a) 4 years of English; (b) 3 years of mathematics; (c) 3 years of science; (d) 3 years of social studies; and (e) one-half year of computer science. (National Commission on Excellence in Education 24)

Characterized as the “Five New Basics,” there is very little new in these recommendations apart from specifying (and standardizing) the exact length of time each student should spend pursuing coursework in each disciplinary area.

Recommendations presented as these “New Basics” led some to speculate that the National Committee on Excellence in Education’s recommendations amounted to simple naiveté and/or snobbery (Tye and Tye). William Spady expresses similar sentiments in his response, aptly titled “The Illusion of Reform.” Spady recounts his years of frustration attempting to implement education reforms only to face what “began to seem like a futile and exhausting climb up a steep and endless mountain” (31). Spady acknowledges the feeling of elation he experienced initially as a result of the political and media attention that *A Nation at Risk* attracted:

[A]long came the National Committee on Excellence in Education. In one brief document they swept away all possible legitimate resistance to every one of my “reform” issues, and more. Their rhetoric was so powerful and persuasive that, within weeks, its fallout even got the President to set aside his plan for abolishing the Department of Education and to start talking seriously about improving rather than undermining the public schools. (31)

Spady’s celebration of the effective rhetorical strategies used to frame the problems in the report is countered, however, by his concerns for the framing of the subsequent solutions:

My excitement quickly vanished, and my head began to spin. There, in Recommendation A, was the foundation of the Commission’s reform package--*the five New Basics*--right out of 1963! Good old 1963: the glory days of the post-Sputnik fears ... So here I am 20 years later, asked to

evaluate “new” recommendations that are actually “old recommendations.” (emphasis in original, 31)

Spady’s reactions help us see that, indeed, the rhetorical strategies used in the document were more effective in attracting attention and eliciting emotional responses than in persuading readers to adopt the recommended solutions. Further, the emphasis on effective rhetorical problem framing is linked with an innovative blind spot resulting in new solutions that were some two decades old.

Likewise, similar rhetorical strategies were used to present solutions in response to the second category of problems identified in the report. In the section outlining solutions to the problems associated with expectations, the National Committee on Excellence in Education recommended

[t]hat schools, colleges, and universities adopt more rigorous and measurable standards, and higher expectations, for academic performance and student conduct, and that 4-year colleges and universities raise their requirements for admission. (27)

Examined alongside the first set of recommendations pertaining to the New Basics, a theme begins to emerge in the framing of solutions. The New Basics presented in the previous section of the report amounted to the National Committee on Excellence in Education saying to teachers and students “keep doing what you have been doing, just do a little more of it.” The second set of recommendations amounted to the National Committee on Excellence in Education saying, “[a]ll we need to do to address the ‘rising tide of mediocrity’ that we are so alarmed by is raise our expectations.” The overall

tenor and message in the recommendations demonstrates why so many educators and administrators were discontent with the framing and substance of the solutions presented in *A Nation at Risk* and provides the basis for understanding the report as an example of the innovator's dilemma in higher education.

The dilemma is further revealed in the specific implementation recommendations the National Committee on Excellence in Education made within the document itself. For instance, the first item listed in the implementation sub-section pertaining to standards and expectations is that "[g]rades should be indicators of academic achievement so they can be relied upon as evidence of a student's readiness for further study" (27). Such commonplaces make it clear why critics such as Spady, Finn, Block, Tye and Tye, and Bossert, among others, castigated the report for presenting solutions that were "nothing new," "shopworn," and "retrograde" (Hunt and Staton 278). For instance, Bossert writes that "The task of improving our schools is an important and complex one. But the commission's call for the 'Five New Basics' ... does not provide a clear blueprint for change" (141). Instead, as the examples discussed above illustrate, the solutions presented in the report simply call for students and teachers to do more of what they were already doing (in the content category), to work harder (in the standards and expectations category), and to do it over a longer period (in the time category).

Recommendations like those suggesting that the school day and/or academic year for primary and secondary schools be lengthened reveal how the report's framing of solutions consisted merely of issuing recommendations to stay on the (then) current

course. As Cornbleth and Gottlieb put it, “[t]he recommendations themselves call for more of the same rather than something different” (69). The solutions amount roughly to increases in quantity: more courses, higher expectations, longer school days or longer academic years: “[i]n effect, quantity becomes quality” (Cornbleth and Gottlieb 69). Phillip Schlechty points out how such familiar solutions are at odds with the problems they seek to address. “They [the National Committee on Excellence in Education] raised national awareness that there really is a problem. But all they said was all we have to do is do more of what we’re doing ... which misframes the problem” (Asayesh 12). Such framing led some to characterize the solutions as “unimaginative and traditional in the worst sense” (Asayesh 13). Viewed through the lens of the innovator’s dilemma, the National Committee on Excellence in Education’s solutions are better described as sustaining rather than disruptive technologies. In this light, it makes sense that the document was indeed more effective as a political treatise than as a blueprint for innovation in education reform.

Hlebowitsch captures such sentiments, viewing *A Nation at Risk* as “more of a political treatise than a thoughtful statement for the reform of the American schools” (88). As Hunt and Staton put it, the Reagan administration “used this rhetorical opportunity to influence educational reform through bold and dramatic language rather than instrumentally” (285). According to Hunt and Staton, even Bell would have concurred with this assessment. For instance, they explain that “[t]en years later [Bell] argued that whereas the political goal of the report had been met--its strong language had compelled the public to focus on education and begin reforms--the original

recommendations had not been extensive enough" (281). Furthermore, in his own reflections on *A Nation at Risk* ten years after its initial publication, Bell states directly that "we soon learned that gains in student achievement, declines in high school drop out rates, and other desired outcomes cannot be attained simply by changing standards and mandating procedures and practices" ("Reflections" 593). Bell even articulates the innovator's dilemma in his reflections, noting that "schools resist change, and this fact must be taken into account by those who would reform them" (594). Bell came to realize that innovation, especially in the context of education reform, is a complex and messy process.

The key lesson from *A Nation at Risk* is that its solutions constituted a series of sustaining rather than disruptive technologies, and thus the report illustrates the innovator's dilemma in discourses of education reform. In his retrospective comments about the report, Bell acknowledges some of the more pernicious implications of reform efforts that fall under the sway of such dilemmas: "We have foolishly concluded that any problems with the levels of academic achievement have been caused by faulty schools staffed by inept teachers" (593). Education reforms must move beyond scapegoating and more-of-the-same solutions.

Case Study Two: *Academically Adrift*

In 2011, Mark Bauerlein, Professor of English at Emory University, described *Academically Adrift* (2011) as "the most talked about higher education book of the year" (Bauerlein 354). We have already seen how the media attention *A Nation at Risk* attracted helped make the issue of education reform a centerpiece of national attention.

In a similar fashion, the attention attracted by *Academically Adrift* has returned the issue of education reform to center stage. Written by sociologists from New York University (Richard Arum) and the University of Virginia (Josipa Roksa), this scholarly project was presumably intended primarily for academic audiences. Recently, however, it has gained more widespread popular attention for its critique of higher education in America and its call for reform. As Kevin Carey wrote in an article for *The Chronicle of Higher Education*,

[i]t was no surprise that *The Chronicle* gave prominent coverage to the conclusion that “American higher education is characterized by limited or no learning for a large proportion of students,” but few people anticipated that the book would become the rare piece of serious academic scholarship that jumps the fence and roams free into the larger culture. (n. pag.)

Academically Adrift was covered in a wide variety of mainstream media outlets ranging from *New York Times* to *Vanity Fair*, even making an appearance in the comic strip *Doonesbury* (Carey n. pag.). David Glenn, also writing in *The Chronicle*, describes Arum and Roksa as going through “a torrent of radio interviews and public lectures” following the publication of *Academically Adrift* (n. pag.). Glenn notes that when Arum and Roksa spoke “at the annual meeting of the Association of American Colleges and Universities, in San Francisco, the ballroom far overfilled its capacity, and they were introduced as ‘rock stars’” (n. pag.). And in a similar characterization, Ernest Pascarella and his colleagues wrote in an article for *Change: The Magazine of Higher Learning* that

Academically Adrift had generated “a national furor” (20). Thus, while *Academically Adrift* was not authored by a federal blue ribbon commission as *A Nation at Risk* was, both texts received considerable attention in the mainstream media, and both focused national attention on problems in U.S. educational institutions. In the next section, I analyze the framing of problems and solutions in *Academically Adrift* to demonstrate that these discursive strategies are evidence of the continued presence of the innovator’s dilemma in discourses of higher education reform.

Framing Problems and Solutions in *Academically Adrift*

When *A Nation at Risk* first appeared in 1983, education reform was not a major issue debated in the public sphere, but by the time *Academically Adrift* was published in 2011, education reform had become a quotidian topic in both civic and professional discourse communities. As Bonnie Irwin, Professor of English and Dean of Arts and Humanities at Eastern Illinois University puts it, *Academically Adrift* was only one example of “the myriad books bemoaning the crisis in higher education published in 2011” (581). The crisis detailed in *Academically Adrift* is, therefore, not a new one. Instead, in many ways, it echoes and repeats the depictions of crises in American education that are evident in *A Nation at Risk*.

Paul Attewell, a sociology professor from the City University of New York’s Graduate School who reviewed *Academically Adrift* for the journal *Society*, describes the book as “a broad indictment of higher education today ... [a] broad brushstroke critique that precedes calls for reform” (225). Attewell’s analysis of the structure of *Academically Adrift*, which first frames a series of alarming problems before calling for education

reform, demonstrates a repetition of the framing and arrangement patterns in *A Nation at Risk*.

Arum and Roksa begin their argument by “[taking] on a well-worn theme--the failure of the U.S. education system, in this case, higher education” (Calhoon-Dillahunt 495). Since the problems were no longer as fresh as they were thirty years earlier when *A Nation at Risk* first appeared, the framing of such problems as an immanent crisis constituting a rhetorical exigence have to be renewed and revitalized. To this end, Arum and Roksa begin by citing Derek Bok, former president of Harvard University, who identifies one of the most pressing problems currently facing our nation as the fact that many college graduates are finishing their undergraduate degrees “without being able to write well enough to satisfy their employers ... reason clearly or perform competently in analyzing complex, nontechnical problems” (Bok quoted in Arum and Roksa 1). Arum and Roksa elaborate on this point by observing that “[b]usiness leaders have begun to ask whether graduates have acquired the necessary skills to ensure economic competitiveness” (1). In ways similar to *A Nation at Risk*, *Academically Adrift* frames problems not as individual challenges or even issues confined to a particular business, industry, or academic major, but as a systematic national crisis. According to Bok and to Arum and Roksa, the current system of higher education is failing to prepare students for the challenges they will face after graduation. And in both cases, this problem is connected directly to national economic and professional concerns.

A Nation at Risk suggests “[o]ur once unchallenged preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors

throughout the world” (5), likening the threat to our nation to an act of war. When Arum and Roksa point out the impact to employers across the U.S. of the problems associated with academically adrift students, we see similar discursive strategies: in both texts systemic problems in U.S. education institutions are framed as not only having national significance but of being national problems in need of solutions.

The two texts also share arrangement strategies used to support their appeals for education reform. In both texts, greater rhetorical emphasis is placed on the language used to catalog and frame problems over the language used to invent, describe, or advocate for specific solutions to those problems. As a result, the two texts generated similar reactions from key audience groups. In each case the language used to frame problems is effective in attracting the attention of mainstream media. Likewise, both texts attracted the attention of academic audiences who responded in a similar fashion. Just as we saw with *A Nation at Risk*, teachers and administrators who write in response to *Academically Adrift* variously critique the accuracy of the data used, the effectiveness of the data in supporting the authors’ conclusions, assumptions expressed about teachers, and its recommendations (Attewell; Haswell). Attewell questions the conclusions reached from the evidence presented, saying that while “the scholarship that underlies the book is impressive ... the sweeping conclusions sometimes reach beyond the evidentiary base” (225). Similarly, rhetorician Richard Haswell questions a range of statistical maneuvers on the part of Arum and Roksa, comparing them to a team of researchers who “run hundreds of tests of statistical significance looking for anything that will support the hypothesis of nongain and push their implications far

beyond the data they generate” (489). Haswell goes as far as to caution his readers that *Academically Adrift* is “simply not anchored in a research method readers can either trust or challenge” (489). Unlike Haswell, who suggests that readers eschew the book altogether, Attewell sees some value in the debate it sparked: “That [*Academically Adrift*] provokes a flurry of questions and counter-arguments is testament to the importance of its questions, and to the valuable contribution it makes” (226).

Haswell’s and Attewell’s critiques are typical of the concerns raised by scholars who have, up to this point, reviewed and replied to *Academically Adrift* and resemble those expressed by teachers and administrators who replied to the National Committee on Excellence in Education’s *A Nation at Risk*, especially in the ways in which replies question the authors’ assumptions about teachers, the accuracy of data, the use of strong language, and the conclusions and recommendations put forth. Moreover, from these examples we can see that both *A Nation at Risk* and *Academically Adrift* created a “rhetorical opportunity” not only for the authors of the document but also for those who responded to, agreed with, and critiqued their arguments.

For over thirty years, texts focused on education reform have sounded alarm bells pointing to a “crisis” in American educational institutions. As Irwin notes, the frequency of such arguments has increased in recent years to the point where such claims are now a commonplace of education reform discourse in the public sphere. It is no easy task to persuade readers repeatedly that the American education system, one of the most fundamental public functions of government, has been in a state of crisis for

over three decades and, furthermore, that now, finally, the crisis has reached such a point that social action in the shape of education reform must be undertaken.

Arum and Roksa explicitly acknowledge the persistent language of crisis in calls for education reform to create a rhetorical exigence for their own work, explaining that “[l]imited learning in the U.S. higher education system cannot be defined as a crisis because institutional and system-level organizational survival is not being threatened in any significant way” (124). Arum and Roksa see the evidence of limited learning they have catalogued and presented as a problem but clarify in this statement that the real crisis is that a majority of stakeholders (students, parents, teachers, administrators, and policymakers) *do not* perceive it as a crisis; instead, the system and its stakeholders, according to Arum and Roksa, are perfectly content to stay the course, adrift though it may be, with “limited learning” routinely accepted. Arum and Roksa elaborate: “Limited learning on college campuses is not a crisis because the institutional actors implicated in the system are receiving the organizational outcomes that they seek, and therefore neither the institutions themselves nor the system as a whole is in any way challenged or threatened” (125). This rhetorical maneuver, which frames the crisis as the failure to recognize that there is in fact a crisis, immediately precedes Arum and Roksa’s proposed “potential reforms” (125).

Arum and Roksa’s final chapter entitled “A Mandate for Reform” describes their proposed solutions as “recommendations for improved educational practices at the institutional level as well as policy changes that are focused at the system level” (125). Yet, their proposed reforms include the recommendation that “all higher-education

institutions could focus increased attention on the academic component of undergraduate learning **without** fundamental challenges to the existing system” (129, emphasis added). For example, Arum and Roksa’s first suggestion is that students entering college should be better academically prepared so as to avoid the need for “remedial” coursework (126). Where we saw the authors of *A Nation at Risk* call for colleges and universities to raise their standards presented as a solution to the crisis in education, here we see Arum and Roksa call for secondary schools to raise *their* standards as a solution to the crisis in education. This is followed by a call for “academically rigorous instruction,” which they imply is constituted by courses that require “more than forty pages of reading per week and more than twenty pages of writing over the course of the semester” (129). This reform recommendation is comparable, at the collegiate level, to the National Committee on Excellence in Education’s curriculum prescribed in the *Five New Basics*.

In sum, Arum and Roksa’s reform recommendations closely resemble the kind we saw proposed in *A Nation at Risk*. Not only do we find a message that advocates a return to basics replete with quantified standards (e.g., completing a minimum of forty pages of reading and a minimum of twenty pages of writing in each course to ensure academic rigor, spending more time studying, etc.) instead of a discourse of invention, we also see the same reliance on sustaining technologies (remember that Arum and Roksa say their reform program can be implemented “**without** fundamental challenges to the existing system”) instead of disruptive technologies. In other words, we see another example of the innovator’s dilemma in a discourse of education reform.

Tracing Transfer Warrants in Discourses of Education Reform

Carol Geary Schneider, who has been President of the Association of American Colleges and Universities (AAC&U) since 1996, begins her introduction to George Kuh's 2008 report on a proposed course of education reform by saying, "[t]his report on 'high-impact educational practices' speaks directly to what is arguably our most important national challenge in higher education: helping America's extraordinarily diverse students reap the full benefits – economic, civic, and personal – of their studies in college" (1). Again, the familiar rhetorical strategy proposes systemic problems in U.S. institutions of higher education, which she explains constitute a "national challenge" (Schneider 1).

With hyperbolic rhetoric, Schneider asserts: "the nation's future ... depends on the United States' ability to help a much larger fraction of Americans achieve high levels of knowledge and skills" (5). Schneider supports her claim, reporting on surveys conducted by Peter D. Hart Research Associates, noting that "[i]n AAC&U's 2006 LEAP-commissioned⁶ survey of employers, 63 percent reported that too many college graduates lack the skills they need to succeed in the global economy" (5). Schneider suggests that these problems are so grave that they constitute a potential threat to both individual students and to the nation's future. Thus, we see rhetorical strategies similar to those used in *A Nation at Risk* and *Academically Adrift*. Moreover, such framing immediately precedes a direct call for a specific agenda of higher education reforms,

⁶ LEAP is an acronym for Liberal Education and America's Promise, a ten-year initiative of the Association of American Colleges and Universities. This program will be discussed in the next section of this chapter.

showing a repetition of the same problem-solution arrangement pattern. In each case, the authors follow a similar discursive sequence in which they affirm pre-existing beliefs in the value of higher education while simultaneously trying to persuade audiences of the need to change and improve the system.

We can trace these moves in Schneider's text. For instance, Schneider asks, "[h]ow do we help students actually achieve the forms of learning that serve them best, in the economy, in civic society, and in their own personal lives?" (7). First, this question affirms an existing, widely held, tri-partite belief in the value and function of higher education in America. Each year, approximately twenty-one million students are persuaded to obtain some form of higher education at an accredited college or university precisely because they view such experience as providing "the forms of learning that will serve them best" in professional, public, and personal discourse communities (National Center for Education Statistics). According to the College Board, the cost of tuition and fees at public, four-year colleges and universities in the U.S. has risen 27% over the most recent five-year period between the 2007-2008 academic year and the 2012-2013 academic year ("Trends in Higher Education: Trends in College Pricing." n. pag.). An October, 2012, CNNMoney article helps put this increase into context, explaining that "[t]o attend an in-state public college for the 2012-2013 academic year, the average overall cost (or 'sticker price') for students who don't receive any financial aid rose 3.8% to a record \$22,261" (Clark n. pag.). These figures mean that college tuition is outpacing inflation by a margin of two to one (Clark n. pag.). Yet, while costs continue to rise, the raw number and overall percentage of eighteen-to-

twenty-four-year-olds attending accredited two-year and four-year colleges and universities “rose from 15 percent in 2000 to 41 percent in 2010” (National Center for Education Statistics). In practical terms, when people elect to spend money on a product, good, or service, it is an indication that they have been sufficiently persuaded of the value in doing so. Thus, the increasing overall percentage of eighteen-to-twenty-four year olds who elect to spend money to enroll in two or four-year accredited colleges or universities despite the rising cost of tuition and fees shows evidence that the belief that higher education will benefit students is unflagging. By first appealing to the widely held belief that obtaining a college degree will actually help students prosper in personal, professional, and civic arenas, Schneider affirms the value of education. Then, by asking how students might “actually achieve the forms of learning that will serve them best” in those arenas, she implies that currently students are not actually achieving the best forms of learning.

In addition to simply re-tracing the repeated framing of problems-as-crisis preceding a call for education reform, we can also identify another unifying rhetorical strategy present in all three texts: the use of transfer as an (often unstated) assumption about the purpose, nature, and function of higher education. In these texts, transfer operates rhetorically as a warrant, or the logical bridge, bringing together the evidence of crisis with the claimed need for education reform.

According to David Perkins and Gavriel Salomon, two prominent educational researchers, “[t]ransfer of learning occurs when learning in one context or with one set of materials impacts on performance in another context or with other related materials”

("Transfer of Learning" 6,452). They add that "positive transfer⁷ occurs when learning in one context improves performance in some other context" (Perkins and Salomon, "Transfer of Learning" 6,452). Based on this definition, we can see that Schneider's linking of a college education to students' "economic, civic, and personal" prosperity, implies the concept of transfer. Schneider's inference is that a college education enables students to prosper after college because they are assumed to be able to apply a broad range of skills learned during college. The centrality of transfer is even more explicit when Schneider asserts that Kuh's report serves, in part, to answer the question, "What do students need to know and be able to do?" (2). This question arises in the context of Schneider's discussion of a college degree, which she frames as being (1) a rhetorical artifact signifying completion of the required courses and (2) an agent of transfer:

the long-term "college success" question encompasses not only whether students have earned a degree, but also whether graduates are in fact achieving the level of preparation--in terms of knowledge, capabilities, and personal qualities--that will enable them to both thrive and contribute in a fast-changing economy and in turbulent, highly demanding global, societal, and often personal contexts. (2)

Here we see that transfer is unstated but central to Schneider's larger argument.

In Schneider's view, the college degree simultaneously signifies the completion of required coursework and the training needed to "thrive" in future situations. This

⁷ Positive transfer can be contrasted with negative transfer, which Perkins and Salomon define as "when learning in one context impacts negatively on the performance in another" ("Transfer of Learning" 6,453).

argument only makes sense if students' ability to transfer knowledge and skills from college forward to future situations is assumed to be a routine expectation for higher education.

Aaron Pallas, Professor of Sociology and Education at Columbia University, argues that "we take the primary mission of undergraduate education to be the development of broad cognitive competencies such as critical thinking skills, complex reasoning, and the ability to communicate ideas and arguments in writing clearly and effectively" (214), suggesting that transfer is, in fact, commonly assumed to be a fundamental goal of higher education. As we will see in the next chapter, educational researchers and cognitive psychologists investigating transfer often look for precisely the kind of higher order thinking skills that Pallas describes as "broad cognitive competencies." Those higher order thinking skills are then assumed to transfer over the short-term, while students are still enrolled as undergraduates, and over the long-term, after students graduate. We don't expect college graduates to be explicitly tested on the content of their undergraduate coursework in post baccalaureate situations; we expect them to be able to transfer and apply the skills they learned in the classroom to new situations after college. Pallas, following so many others, builds upon this assumption of transfer, suggesting that if they cannot provide students with these critical skills and knowledge, "then most colleges and universities are falling far short of their responsibilities" (214). Pallas's remarks,⁸ therefore, make assumptions about transfer more explicit than they typically are when they remain unstated. What's more, they

⁸ Pallas made these remarks in a review of *Academically Adrift* and was not commenting on Schneider's text directly.

show how such assumptions about transfer can provide the logical basis for framing problems in education. We can see another example of this when Arum and Roksa argue that,

[T]he future of a democratic society depends upon education a generation of young adults who can think critically, reason deeply, and communicate effectively. Only with the individual mastery of such competencies can today's complex and competitive world be successfully understood and navigated by the next generation of college graduates. (31)

Similarly, when Schneider questions “whether graduates are in fact achieving [a high] level of preparation,” she illustrates that transfer is not only assumed but also suggests the problem that it may not be happening,⁹ at least not consistently.

In each case, we see that assumptions about transfer provide the basis for framing problems that demand education reform. Moreover, we see that Schneider's depiction of employers' “increasingly urgent tones” echoes the language used to convey a sense of urgency in *A Nation at Risk* and *Academically Adrift*. The assumption that students *should* be able to transfer knowledge or skills from one situation (e.g., a course taken in college) to another situation (e.g., post-baccalaureate employment) helps provide the logical basis for at least some of the framing of problems in *A Nation at Risk* and *Academically Adrift*.

⁹ In the next chapter I show that such competing beliefs about transfer (that it should happen but doesn't) is consistently the focus of scholarly investigations of transfer.

CHAPTER TWO

A TALE OF TWO TRANSFERS

“Whenever teachers instruct, they implicitly convey their beliefs about knowledge transfer. Teachers assume not only a certain knowledge base on the part of students but also an ability on the students’ part to bring that knowledge to bear on new instructional situations. Furthermore, teachers make assumptions about the knowledge that students will transfer from new instruction to future learning experiences: They will learn from writing one composition how to write well on subsequent essays, they will learn from reading *Gulliver’s Travels* how to understand other satires, and so on.”

-- Peter Smagorinsky and Michael Smith
in “The Nature of Knowledge in
Composition and Literary Understanding”

In the last chapter, I argued that a shared cultural belief that an undergraduate education will help students prosper in professional, personal, and civic arenas functions rhetorically as a warrant in selected late twentieth-century texts calling for education reform. I analyzed the problem-solution frames used in these texts to illustrate how advocates of education reform face a version of the innovator’s dilemma. In this chapter, I survey the history of transfer studies to

support my position that the concept of transfer provides a rhetorical warrant in discourses of education reform.

Transfer is central to our beliefs about general education and our beliefs about the nature, function, and purpose of writing instruction as part of a general education. As Smagorinsky and Smith have noted, “debates about the specificity of knowledge that are raging in educational psychology raise issues that lie below the surface of discussions about how to investigate and teach composition” (298). Thus, in keeping with other composition scholars who have investigated writing-related transfer, I draw from the work of cognitive psychologists and educational researchers.

This chapter is organized into four parts. In part one, I first present my working definition of transfer and provide a survey of major debates about transfer. In part two, I show transfer studies routinely produce results that fail to provide evidence that the hypothesized transfer occurred. In part three, I argue that this problem is caused because researchers are expecting one kind of transfer (high road) and therefore designing hypothesis-driven experiments to look for it; our teaching practices, however, more frequently assume a different kind of transfer (low road). Acknowledging this contradiction can explain why so many studies of transfer show the hypothesized transfer did not appear. In part four, I demonstrate the relevance of this problem to the field of rhetoric and composition by showing that we lack a suitable method for investigating high road and low road transfer of writing-related knowledge and skills. Later, in chapter three, I present emergent design as a

research method and rhetorical theory for studying writing-related transfer.

PART ONE: DEFINING TRANSFER

“To what extent is knowledge specific to particular situations? To what extent can learners transfer knowledge from one context to another? Can people learn general skills that help them solve problems in a variety of fields? Do people exercise a ‘mental muscle’ when they attempt to solve particular problems?”

-- Peter Smagorinsky and Michael Smith
in “The Nature of Knowledge in
Composition and Literary Understanding”

“Any survey of what education hopes to achieve discloses that transfer is integral to our expectations and aspirations for education.”

-- David Perkins and Gavriel Salomon
in “Teaching for Transfer”

Transfer, in this project, means how knowledge flows or travels from one context to another. Educational psychologists Gavriel Salomon and David Perkins argue that we find transfer when “knowledge or skill associated with one context reaches out to enhance another” (“Teaching for Transfer” 22). Perkins and Salomon explain that “[t]ransfer goes beyond ordinary learning in that the skill or knowledge has to travel to a new context” (22). I focus on the verb *travel* in their definition because it is essential to my understanding of transfer. Unlike what Perkins and Salomon call ordinary learning, where a body of knowledge can be tested and recalled by the student on demand, transfer enables students to succeed in wholly

new situations. These wholly new contexts can be analyzed as “rhetorical situations.”

A rhetorical situation¹⁰ is an occasion in which an individual (or entity) becomes a rhetor. A rhetor addresses one or more audiences within a particular context and uses written, spoken, or multimodal discourse for a specific purpose. Many rhetorical situations emerge in response to an exigence, an occurrence that invites or demands a rhetorical response. A rhetorical situation involving successful transfer¹¹ is one in which the rhetor is able to accomplish his/her rhetorical objective because s/he is able to draw from previous rhetorical training and adapt, thereby overcoming a gap in spoken, written, or multimodal composing skills. However, before I discuss specific rhetorical skills in relation to transfer, I will first review the literature on transfer.

Cognitive psychologists and educational researchers who investigate learning processes have studied transfer in great depth for more than a century. Transfer was taken up as an object of scholarly investigation as early as the turn of the twentieth century, when E. L. Thorndike and R. S. Woodworth published an essay titled “The Influence of Improvement in One Mental Function upon the Efficiency of Other

¹⁰ See Bitzer (1968) for a canonical definition of the rhetorical situation. See Vatz (1973) for a response that complicates Bitzer’s argument. And see Edbauer (2005) for a discussion of rhetorical ecologies. I do not discuss any of these in this chapter, opting instead to offer my own working definition of how theories of the rhetorical situation are relevant to issues of transfer.

¹¹ Perkins and Salomon have also theorized that negative transfer is possible. Negative transfer occurs when previous skills or knowledge interfere with or impede the reaching out or travelling of knowledge when someone is confronted with a new situation. The problem of negative transfer is also connected to the problem of inert knowledge, or knowledge that fails to transfer, such as when a student can recall facts learned through rote memorization but fails to apply that knowledge beyond the initial context in which it was learned.

Functions” in the journal *Psychological Review*. At the time (1901) a fundamental belief that knowledge does transfer was already widespread and well-entrenched. However, according to Thorndike and Woodworth, “[i]mprovement in any single mental function rarely brings about equal improvement in any other function, no matter how similar” when mental functions are empirically investigated (250). Still, researchers continued to theorize transfer and conducted studies designed to measure what skills or knowledge were transferred in a given setting.

PART TWO: TROUBLING RESULTS FROM TRANSFER STUDIES

Despite a number of investigations that challenged widely held assumptions about transfer, a fundamental belief that knowledge and skills are, in fact, routinely transferred persisted throughout the twentieth century and remains prevalent today. Throughout the early twentieth century, a variety of studies failed to provide empirical evidence in support of the belief that knowledge gained in one area can be shown to transfer to (and enhance) knowledge in another area.

During the 1920s and 1930s, several of these studies investigated the potential for transfer to English composition from learning Latin (Harris; Dallam; Foster; Orleans; Otis; Thorndike; Thorndike and Ruger; Haskell; Miller and Briggs; Cox; Hamblen; Douglass and Kittelson; Pond). For example, in 1917, F.M. Foster found only minimal transfer from Latin on the improvement of spelling in English composition. In 1923, Thorndike presented the results of a study that showed that training in Latin was not measurably transferred and applied by ninth-grade students to improve their reading ability in English ("The Influence of First-Year Latin"). And, in 1935, Harl Douglass and Clifford Kittelson reported similar results from their study of seniors in English classes from six Minnesota high schools finding that few benefits transferred from Latin to English grammar, vocabulary, or spelling. Even though Douglass and Kittelson did find that "[p]upils who have had more than two years of Latin do materially better than those who have not studied Latin, and slightly better than those who have studied Latin for only two years," (32) they still concluded that "[t]he differences noted above are not in general great

enough to be statistically reliable with respect to words not of Latin origin" (32-33).

The results of these studies showed that the knowledge and skills that were presumed to transfer could not be demonstrated through empirical testing.

Nonetheless, a fundamental belief that knowledge and skills transfer from one course to another persisted.

Scholarly debate about under what conditions transfer happens and how to study it continued throughout the twentieth century. For example, in 1976, David R. Olsen published "Culture, Technology, and Intellect," arguing that literacy transfer is inextricably linked to the evolution of what he called "exosomatic" organs (192). Drawing from the work of Eric Havelock, Walter Ong, and Marshall McLuhan, Olsen asserted that the ability to transfer thinking skills is highly dependent not just on mental activities, natural aptitude, or formal training but also on the technological environment surrounding a person. He explained that certain technologies, such as the technology of writing as it is discussed in Plato's *Phaedrus*, "alter what we can do and the psychological processes that are constituent to that activity" (192). Hence, although Olsen did not explicitly use the term "transfer" in his argument, his thesis certainly involved the concept of transfer as I have defined it. Moreover, Olsen's argument was in keeping with theories of orality and literacy presented by Havelock, Ong, and McLuhan that posit a connection between literacy and specific mental processes such as the ability to subordinate ideas in ways that are not (thought to be) possible in predominantly oral cultures. In sum, scholars who focus on orality and literacy (including, but certainly not limited to, Olsen, Havelock,

Ong, and McLuhan) typically argue that the technology of writing (and reading) enables mental processes and thinking styles that are fundamentally different from those of oral cultures. Even though they may not explicitly use the term “transfer,” the concept is central to their work because they argue that one set of skills (reading and writing) enables other skills (abstract critical thinking, the subordination of ideas, etc.).

Early work that explored the relationship between literacy and transfer, such as Olsen’s work described above, routinely hypothesized that literacy should and does transfer easily, especially in purely functional terms. Reading a book for one class, for example, would translate easily to reading a book about a different subject for another class. Likewise, writing an essay for one class would easily translate to writing another essay for a different class. As Salomon and Perkins put it, “lay people and scholars alike commonly expect far and wide transfer from literacy” (“Rocky Roads” 130). Widespread claims about the broader implications for literacy transfer, however, have been difficult to measure empirically. This is largely due to the school-based setting in which most literacy training occurs.

Historically, most scholars who have explicitly discussed transfer have come from social scientific disciplines in which theories are empirically tested. In the social sciences, studies that are conducted with valid and reliable research techniques are privileged over other “softer” methods of producing evidence and testing theories. Definitive conclusions about hypotheses concerning literacy transfer have therefore been challenging for social scientists to reach because, in most cases,

literacy acquisition happens in a school-based context where a variety of skills and subjects are being taught and learned simultaneously (“Teaching for Transfer” 24). These circumstances have made it difficult for researchers, especially those working in Western European and American cultural contexts, to conduct empirical studies in which they are able to isolate specific variables related to literacy and to study them in relationship to transfer. Nonetheless, literacy has continued to be theorized as a mechanism for the transfer of cognitive abilities (Olsen; Perkins and Salomon, “Teaching for Transfer”; Scribner and Cole).

One noteworthy investigation of literacy was able to use quasi-empirical methods to examine literacy transfer successfully. In 1981, Sylvia Scribner and Michael Cole published the results of their study conducted in a Liberian cultural context in which Vai and Arabic written languages were learned and used, but were not formally taught in a school-based setting. This particular cultural context allowed Scribner and Cole to study literacy in isolation and to control for the variable of concurrent coursework that is typical in Western and European school-based settings.

Scribner and Cole’s work is one of the few studies of literacy transfer that has been able to isolate key literacy variables in a quasi-empirical fashion and to investigate literacy transfer without the influences of co-curricular literacy as one would find in an American or Western European school-based setting. Their results, however, did not provide empirical evidence to support existing theories of literacy transfer, such as the one articulated by Olsen (1976). Instead, they found that “the

hypothesized transfer did not appear” (Perkins and Salomon, “Teaching for Transfer” 24). Specifically, “with the exception of one transfer task (sorting), neither Vai nor Arabic literacy affected performance on tasks that tap higher order or metalinguistic skills” (Salomon and Perkins, “Rocky Roads” 130). These results call into question fundamental assumptions about the transfer-ability of literacy skills and their relationship to higher-order cognitive processes that had been, up to this point, mostly taken for granted.

Since reading and writing are typically taught in school, alongside an array of other subjects, social scientists following Scribner and Cole have had difficulty attempting to quantify literacy transfer and design valid and reliable studies in which literacy training could be isolated. They also have had difficulty controlling other variables, such as concurrent coursework in other subjects, because even in subjects where reading and writing were not the subject matter per se (such as biology or sociology), reading and writing skills were required and applied to the study of the subject matter in question.

Despite the difficulty of empirically assessing literacy transfer, the scholarly debate about transfer in general continued and in fact heightened during the mid-to-late 1980s, especially as a new form of literacy--computer programming--became culturally significant. As computer hardware shrank in physical size, the price of computers fell. These two trends in tandem made computers more affordable and ubiquitous in offices, schools, and homes. Scholarly interest in the burgeoning “computer culture” of the 1980s was great, and a growing population of individuals

trained to program computers offered an ideal context for the rigorous empirical investigation of literacy transfer. This new form of literacy also provided an opportunity for social scientists to study the broader implications of literacy that had been hypothesized while controlling for co-curricular variables.

Some scholars who studied the cultural and psychological significance of computer programming literacy echoed the historical claims about literacy and made bold claims about the potentials for transfer from programming. They argued, for example, that

through learning to program, children are learning much more than programming, far more than programming facts! It [was] said that children will acquire powerfully general higher cognitive skills such as planning abilities, problem-solving heuristics, and reflectiveness on the revisionary nature of the problem solving process itself. (Pea and Kurland 138)

Seymour Papert, an MIT mathematics professor and early pioneer of artificial intelligence, is widely cited for articulating this viewpoint, most notably in his book *Mindstorms: Children, Computers, and Powerful Ideas* (1980).

Papert drew from Jean Piaget's work to theorize and then build an early computer-based learning environment designed to facilitate the transfer of logical thinking and mathematical or geometric principles from computer programming. Papert's beliefs about transfer were expansive. Papert argued in *Mindstorms* that children who participated in Mathland, the computer-mediated learning

environment he developed, would learn in fundamentally different ways. This new way of learning math and geometry, he said, would, in turn, affect (in a positive way) how students would learn other subjects and approach problem-solving more generally. Papert even went as far as to suggest that learning math in this way could combat the cultural predisposition to “mathophobia,” which he felt was prevalent in American culture at the time of his writing.

Papert believed that students who learned math and geometry through computer programming would be able to transfer their knowledge and skills to new situations because they would finally be learning math in a meaningful, inquiry-driven context in the first place. Papert explained:

[o]ur education culture gives mathematics learners scarce resources for making sense of what they are learning. As a result our children are forced to follow the very worst model for learning mathematics. This is the model of rote learning, where material is treated as meaningless; it is a *dissociated* model. (47, emphasis in original)

Instead of learning math and physics through rote memorization and contextually disassociated drills, Papert argued that children should learn math in a contextually relevant, engaging, and technology-rich environment such as Mathland, the software he developed for this purpose. By doing so, he claimed, children would come to see math as something that was relevant.

Moreover, Papert believed that learning the language of mathematics through

LOGO¹² programming would essentially lead to students being bi-lingual: students using Mathland would learn math as easily as one learns one's native spoken and written language. He explained, "[t]he computer-based Mathland I propose extends the kind of natural, Piagetian learning that accounts for children's learning a first language to learning mathematics" (48). Papert argued that learning the LOGO programming language in this way was akin to having an American child spend extended periods of time in France to learn French instead of learning it through memorization and drills in a classroom-based setting.

Not only did he argue that learning math in a relevant and engaging technology-rich environment should transfer to other areas of thinking, Papert also suggested that other domains of knowledge could be transferred *into* the learning of math. In Mathland, Papert said, "[c]hildren can *identify* with the Turtle [the object they navigate through Mathland] and are thus able to bring their knowledge about their bodies and how they move into the work of learning formal geometry" (56). In one example, Papert described a student who wanted the Turtle to move in a circle. The student learned how to program the Turtle by "playing Turtle" (58). During this exercise, the child moved his own body slowly and each time he took a step he described what he was doing to move in the shape of a circle, which, according to

¹² LOGO is the programming language Papert and his colleagues at MIT developed for use in Mathland. The students Papert studied in his MIT laboratory used LOGO to accomplish their objective of commanding a Turtle to move in the desired direction through the cyberspace of Mathland. Papert noted that, unlike BASIC, another programming language often taught to children in programming courses during the 1980s, learning LOGO was more closely aligned with how a child learns a first or second language naturally through exploration and immersion.

Papert “might lead to a description such as: ‘When you walk in a circle you take a little step forward and you turn a little. And you keep doing it’” (58). In this example, the child would have to draw from and transfer his/her understanding of how to move one’s own body in space in order to write a command that would tell the Turtle in Mathland how to move in the same direction.

Hence, for Papert, learning math in Mathland required transfer from other domains of knowledge (tacitly understood concepts of how one’s own body moves in space) and also should enable future transfer to other domains such as more abstract geometric concepts such as the shape of a circle. Papert went as far as extending this line of reasoning to suggest that the possible positive outcomes might even include non-mathematical logical thinking. As Papert put it, teaching a child to program the Turtle to move in a circle in Mathland “would not consist primarily of teaching the child how to program the Turtle circle, but rather of teaching the child a method, a heuristic procedure” (58). Papert provided some evidence that the transfer of mathematical and geometric knowledge acquired in Mathland would be possible by presenting a case study of two children, Michael and Paul, who learned to program a Turtle in Mathland then learned to walk on stilts.

Initially, computer programming might seem to have no relationship whatsoever to walking on stilts but Papert suggested otherwise. Educational psychologists would typically describe these two children, Michael and Paul, as having different “aptitudes.” Michael might be described as more physically inclined and therefore better suited to stilt-walking, while Paul was more

intellectually inclined. On the basis of these aptitudes, it would not be unreasonable to hypothesize that the more athletically inclined boy (Michael) would learn to walk on stilts more quickly and with greater ease due to the physical nature of the activity. Ultimately, both boys learned to walk on stilts successfully, but it was Paul, the more intellectually inclined boy, who learned to do so the quickest. Papert noted that this outcome surprised Michael and Paul because they perceived walking on stilts as more of a physical activity than an intellectual endeavor.

Papert analyzed the approach Paul used when learning to walk on stilts and explained that when Paul “found that he was not making progress he tried to isolate and correct part of the process that was causing trouble: ‘the bug’” (104). Papert highlighted the possible connection between learning to program the Turtle in Mathland and learning to walk on stilts, noting that, “[t]he analogy with his approach to programming was so apparent to Paul that this might have been a case of ‘transfer’ from the programming work to learning this physical skill” (105). This example led Papert to conclude that “the experience of programming helped both boys obtain a better grasp of their own actions, a more articulated sense of themselves” (105). This outcome, if it could be demonstrated through empirical studies to be valid and reliably reproduced, would be a vital source of evidence to substantiate hypothetical claims about transfer. And many subsequent studies have attempted to produce empirical results to quantify transfer and reproduce measurable results to prove that knowledge transfer actually can pay off in this fashion.

Papert's initial claims were substantiated primarily by case studies of select students who were introduced to programming in LOGO by Papert and his colleagues. Papert's evidence, while rich with details, would be considered too "soft" for many social science researchers interested in demonstrating generalizable findings through empirical studies. For example, a 1984 study conducted by Douglas Clements and Dominic Gullo and published in the *Journal of Educational Psychology* sought to validate, using empirical methods, many of the strong claims about transfer Papert issued in *Mindstorms*.

Clements and Gullo began their study from two premises concerning the positive influence computer programming literacy might have on children. Their first premise was that "[c]omputers can make the abstract concrete and personal as they help children learn more effectively by making their thinking process more conscious" (1051). In this statement, Clements and Gullo address the broader role they thought computers could play in education generally. In their second premise, they narrow their focus to computer-mediated environments surrounding children who learn programming: "[t]he computer programming environment holds the promise of being an effective device for cognitive process instruction--teaching *how*, rather than *what*, to think" (1051). This notion of teaching *how* rather than *what* is reminiscent of Papert's description of the heuristic procedure a student would learn by using LOGO to program the Turtle in Mathland to move in a circle. Indeed, Clements and Gullo cite Papert frequently and the influence of Papert's optimism about the potentials for transfer from computer programming literacy is evident in

their two premises.

Instead of relying primarily on evidence from case studies, Clements and Gullo conducted a study that involved a total of eighteen children, all of whom were six years old at the time of the study. Students were randomly assigned to one of two groups (either the LOGO group [n=9] or the control group [n=9]) to test a five-part hypothesis concerning transfer. At the outset of the study, Clements and Gullo conducted a *t*-test to assess the initial similarity between the groups and found “no significant difference between the groups” (1054). The parity between the two groups at the outset was a crucial assessment to ensure the study generated empirical results. This technique helped the researchers isolate the influence learning LOGO had on the children’s thinking. Since the test group and the control group showed parity at the outset, measurable differences at the conclusion of the study could be tested and reasonably attributed to the learning of LOGO, especially since other co-curricular environmental variables could be controlled during the study.

Clements and Gullo took an additional precaution in an effort to isolate the influence of LOGO programming literacy specifically. They were sensitive to the possible influence of the computer-mediated environment itself and wanted to control this variable as much as possible. They noted, for example, that “[i]t is possible, of course, that any benefits derived from computer programming can be attributed to interactive experiences with computers, rather than to the programming activity per se” (1052). Therefore, the nine students in the control

group were also provided interactive computer-mediated experiences through Computer-Assisted Instruction (CAI). Since both groups of students were exposed to a computer-rich learning environment over the twelve-week period of the study but only the LOGO group showed significant differences between the pre- and posttest, the results suggest that learning to program LOGO did have a positive impact on fluency, originality, and divergent thinking skills as measured by the Torrence Tests.

Similar results were found from the Matching Figures Familiarity Test, a measure of reflectivity. "Comparisons of pre- to posttest scores on the MFFT revealed significant differences for the LOGO group on error and latency, while no significant differences were found for the CAI group" (1056). And "[t]he LOGO programming group significantly outperformed the CAI group on both metacognition tasks" (1056). Therefore, the results of Clements and Gullo's study show positive indications about the potential benefits of LOGO; however, connecting these results specifically to transfer remains questionable for several reasons. First, Clements and Gullo found that "[n]o differences existed between the groups in two areas of cognitive development--operational competence (classification and seriation) and other specific aspects of cognitive development as measured by the MST [the McCarthy Screening Test, which is a measure of general cognitive development]" (1056-57). This finding led Clements and Gullo to conclude that "there was no evidence that 12 weeks of programming experience affects cognitive development compared to 12 weeks of CAI experience" (1057). Therefore,

the conclusions suggest that LOGO programming experience can contribute to positive outcomes in selected areas, but not to overall cognitive development.

In 1989, a number of years after Clements and Gullo published their results, educational psychologists Gavriel Salomon and David Perkins surveyed the scholarly debate about transfer and noted that Clements and Gullo had “reported rather impressive transfer results from LOGO” (“Rocky Roads” 114). Yet, while Perkins and Salomon called attention to Clements and Gullo’s positive transfer findings, Clements and Gullo themselves were more cautious when discussing the broader implications for their research. For instance, when they noted the limitations of their study, they discussed the small number of students who participated. In addition, most studies of transfer that were being conducted at the time when their research was published focused on older students, such as middle-schoolers and high-schoolers. As a result, Clements and Gullo acknowledged that it was difficult to compare their results with other studies and therefore framed their work as preliminary and called for future studies to be repeated so that their initial findings could be reproduced and validated.

Despite the fact that Clements and Gullo’s study did not provide conclusive empirical evidence for the transfer of problem-solving skills from computer programming literacy, it was still significant because it offered a blueprint for future studies that could be conducted with larger sample sizes. They cautioned, for example, “[t]he limitation of performing several *t* tests with a small number of subjects must be noted. As the knowledge base regarding appropriate techniques for

teaching programming to very young children expands, future research should replicate this study using larger sample sizes” (1057). In concluding their article, Clements and Gullo acknowledged both the positive findings for transfer and also the limited scope of their results: “Evidence is provided that programming may affect cognitive style; however, there is no evidence from this study that it affects general cognitive development” (1057). As scholarly interest in the cultural and psychological implications of computers increased, follow-up studies such as those called for by Clements and Gullo were conducted.

A study conducted by Marcia Linn, another scholar interested in the possibilities for transfer from computer programming, tested some of the claims that Papert made and investigated issues discussed by Clements and Gullo. Linn agreed with Papert about the potential theoretical transfer benefits from learning computer programming to developing advanced problem-solving abilities. She noted, for example, that “[p]rogramming a computer is a form of problem solving; superficially, at least, students who learn to program learn to problem solve” (14). However, Linn also acknowledged that “computer programming courses are potentially an efficient way to teach problem-solving skills, but achieving this potential poses a substantial challenge to educators” (Linn 29). Therefore, while Linn shared Papert’s optimism about the theoretical potentialities for transfer from computer programming, she held a more pragmatic view about the widespread implications because of the ways in which computer programming was actually being taught in most schools. Most notably, Linn pointed out that the vast majority

of students who were learning computer programming in schools in the 1980s were not doing so in Papert's laboratory at MIT. Instead, most instruction in computer programming during the 1980s more closely resembled the problematic approach to math education that Papert had severely critiqued.

Linn explored the benefits described by Papert in his selected case studies and tested to see if they were more widely applicable and generally reproducible in ordinary classrooms. To investigate these questions, Linn studied more than 600 middle school students from different schools. Whereas Clements and Gullo's sample size was too small to produce generalizable results, Linn's study had a significantly larger sample size. Her findings about transfer, however, were not as positive as those reported by Clements and Gullo. Based on her observations of students learning to program in "ordinary" classroom-based settings, Linn developed a theory that students must progress through a "chain of cognitive accomplishments" to explain "how links between problem solving in programming and problem solving in other disciplines may arise" (Linn 15).

First, Linn theorized, students must learn the formal features of the programming language in question (LOGO in Papert's case or BASIC in Linn's study). Only then, Linn hypothesized, can students proceed on to more advanced steps in the chain of cognitive accomplishments, such as using "design skills" (15). Linn explained that "[k]nowledge of the language features is necessary for using the language but not sufficient for improving problem solving" (15). Unlike the inquiry-driven environment of Papert's Mathland, most students at the time were taught to

program by memorizing the language features first. This was as far as many students, especially those Linn studied, were able to get. Moreover, learning to program in this fashion is similar to learning math by rote memorization in a decontextualized environment – a teaching practice Papert strongly critiqued.

Of the nearly 600 middle school students Linn studied, only the top one percent demonstrated mastery of BASIC's language features. Therefore, a very small number of students progressed beyond the first stage to the second stage. Thus, according to Linn's theory of transfer, it was only these few students who had sufficient computer programming mastery to be able to potentially carry their learning forward to other areas to solve new problems. To clarify this concept, Linn offered an example of a time when some of the top students were placed in a situation that would require transfer when they were asked to learn a new programming language called Spider World (Linn 26).

Linn observed that the students in the top one percent "used generalized procedural skills in that they tested the new environment to see how it performed" (Linn 26). It is possible that the testing procedures these students used were similar to the transfer of problem-solving skills Papert noted in Michael and Paul when they learned to walk on stilts. However, it is difficult to determine whether the students in Linn's study (or even the two boys Papert discussed in his case study) engaged in the testing of the new environment *because* they were able to transfer skills that had previously been developed while learning to program. In other words, it is unclear whether learning to program had a causal relationship to the behavior students

exhibited when they were asked to learn Spider World. As Linn noted, “[t]he extent to which these problem-solving skills were acquired from learning BASIC remains to be determined” (Linn 26). Furthermore, the vast majority of the students who participated in Linn’s study did not master enough of the language features of BASIC to reach the design skills phase in which the transferrable problem-solving skills were thought to be acquired.

The results of Linn’s study suggest that a small percentage of students might have been able to transfer concepts previously learned (while learning to program BASIC) when confronting a new, but similar situation (while learning to program in Spider World). However, the vast majority (ninety-nine percent) of the students who participated in Linn’s study did not reach this point. These results confirm Linn’s assertion that the theoretical possibilities for transfer are exciting, but, in reality, achieving the desired transfer is challenging for teachers and students alike, especially in “ordinary” classroom settings.

Despite these lackluster findings, Papert and scholars who were influenced by his research remained strongly optimistic about the potentials for transfer from computer programming literacy. In an article published after the study he conducted with Dominic Gullo (discussed above), Douglas Clements notes that “[o]f all the applications of computers to education, perhaps none has generated as much excitement, and as many claims as to potential benefits, as computer programming, especially Logo programming” (Clements 55). Yet, as Clements also points out, “research results testing these claims are conflicting ... Some have concluded that

existing research is beginning to reveal significant social and cognitive benefits attributable to students' use of LOGO; others, that the rather grand educational promises simply have not been substantiated" (55). In other words, claims about transfer were routinely issued but highly contested.

A litany of studies were published between 1980 and 1990 documenting the inability to provide empirical evidence for the transfer of problem-solving skills or other higher-order thinking abilities from computer programming literacy (Clements; Soloway and Ehrlich; Perkins and Martin; Perkins, Martin, and Faraday; Salomon and Perkins, "Rocky Roads"; Salomon and Perkins, "Transfer of Cognitive Skills"; Dalby and Linn). Studies focused on transfer in the context of other disciplines such as math (Schoenfeld and Herrmann) and physics (Chi, Feltovich, and Glaser; Larkin et al.) were also conducted between 1980 and 1990. Those studies showed results similar to the outcomes focused on transfer from computer programming. That is to say, the results were conflicting; theories that knowledge should transfer continued to be developed (see for example the strong claims Gyorgy Polya made about transfer in the context of mathematics in his widely cited monograph, *How to Solve It*), but the claims were largely unsubstantiated by empirical evidence. Despite these circumstances, the tremendous importance placed on transfer within educational settings justified the continued intellectual focus on studying, theorizing, and understanding transfer.

In the mid-to-late 1980s, educational psychologists David Perkins and Gavriel Salomon, established themselves as leading thinkers studying transfer. Their work,

which was heavily theoretical, charted a new direction for transfer studies. Unlike many of their peers, who optimistically theorized about when they thought transfer should happen and then conducted empirical investigations to assess their hypotheses, Perkins and Salomon took a different approach in much of their jointly published scholarship by theorizing the process¹³ of transfer itself.

Perkins and Salomon accurately described the scholarly context within which they were working when they observed that “diverse empirical research on transfer has shown that transfer often does not occur” (“Teaching for Transfer” 25). Nonetheless, they believed that transfer happens all the time. The problem with empirical studies of transfer was not, according to Perkins and Salomon, that they repeatedly failed to generate empirical results proving that transfer of a specific skill could be hypothesized then tested and measured. In fact, they did not dispute the point that, when measured, results fail to show transfer. But for Perkins and Salomon this did not mean that transfer does not or could not happen. The problem, as Perkins and Salomon viewed it, was our pedagogical approach (or lack thereof) to transfer.

¹³ Perkins and Salomon focused on *how* transfer happens, instead of trying to predict when transfer should happen or trying to empirically measure what transferred or didn’t transfer. Departing from the then-current tradition in transfer studies, Perkins and Salomon made significant contributions to our contemporary understanding of transfer by focusing on the process instead of the product. As a rhetoric and composition scholar, it is precisely this move (focusing on the process instead of the product) that makes Perkins and Salomon’s work so relevant to my understanding of transfer. It is also for this reason that my working definition of transfer in this project is grounded in their theories of transfer.

PART THREE: KEY CONCEPTS IN TRANSFER STUDIES

“Transfer does not take care of itself, and conventional schooling pays little heed to the problem. With proper attention, we can do much more to teach for transfer than we are doing now.”

-- David N. Perkins and Gavriel Salomon
in “Teaching for Transfer”

While Perkins and Salomon believed that it was certainly possible to “teach for transfer,” they argued that this was rarely done in schools. They explained, for example, that “[t]he implicit assumption in educational practice has been that transfer takes care of itself” (“Teaching” 23). This is what Perkins and Salomon call the “Bo Peep” theory of transfer (23). In other words, we (often incorrectly) assume that transfer will take care of itself, even though we have done nothing explicit or deliberate to foster it. What is complicated about this assumption is that our lived experiences and common sense tell us that transfer does happen this way, at least some of the time. However, according to Perkins and Salomon, transfer does not always--or even often--work this way.

In “Rocky Roads to Transfer,” Salomon and Perkins acknowledge this contradiction, noting the exigence for their theoretical work: “basic questions of transfer simmer beneath the surface in numerous areas of psychological and educational inquiry. The phenomenon of transfer needs to be confronted head on by explicit attempts to explain it and its paradoxes” (114). In response to this exigence, Salomon and Perkins developed a theory of high road and low road transfer. This

theoretical explanation of transfer sheds light on why so many empirical studies produce results that fail to demonstrate transfer, even while common sense tells us that knowledge and skills do transfer under some conditions.

Salomon and Perkins' theory of high road and low road transfer was originally presented at the *Conference on Thinking* at the Harvard Graduate School of Education in Cambridge, MA, in 1984 and was refined in subsequent essays, including "Teaching for Transfer" (1988) and "Rocky Roads to Transfer" (1989). Low road transfer is the kind of transfer most people are familiar with. This is the kind of transfer that does tend to "just happen." Perkins and Salomon offer an example of driving to explain this mechanism of transfer. If someone has already learned to drive a car and suddenly needs to drive a truck, s/he will probably be able to transfer the generalized knowledge of driving from one context (car) to another (truck) successfully. There are clearly differences between driving a car and driving a truck (such as the turning radius, acceleration time, breaking distance, etc.), but the essential features that enable the operation of the vehicle (steering wheel, gas pedal, brakes, windshield, etc.) are structurally very similar. Therefore, most people who are moderately experienced car drivers would be able to drive a truck successfully with relatively little attention paid to *how* they are able to draw from their knowledge of driving a car and apply it to driving a truck; they would "just do it."

Perkins and Salomon summarized the conditions necessary for low road transfer to happen:

One develops well-practiced habits ... Then, one enters a new context ... with many similarities to the old one. The new context almost automatically activates the patterns of behavior that suit the old one ... Fortunately, the old behaviors fit the new context well enough so that they function quite adequately. ("Teaching" 25)

In the example of a car driver being successfully able to drive a truck, the structural features of the new context share many similarities with the old context. Hence, low road transfer (more or less) takes care of itself.

Perkins and Salomon also explain that this kind of low road transfer "reflects the automatic triggering of well-practiced routines in circumstances where there is considerable perceptual similarity to the original learning context" ("Teaching" 25). An experienced driver will have spent hundreds, possibly even thousands, of hours behind the wheel. Therefore, in the example above, driving is precisely the type of well-practiced routine Perkins and Salomon suggest is required for low road transfer to take care of itself. For an experienced driver, in other words, driving a car is a skill that has been learned to the point of near automaticity.

To clarify the concept of near automaticity, consider the skills and knowledge an experienced driver typically possesses. An experienced driver does not consciously consider the function or purpose of a steering wheel, even while doing relatively complex driving maneuvers such as parallel parking. An experienced driver more or less automatically knows which way to turn the wheel when the car is in the drive gear and likewise more or less automatically knows which way to

turn the wheel when the car is in the reverse gear. To parallel park the car, an experienced driver may make minor adjustments to how far the wheel is turned in each direction based on the car's position in relation to the curb and other cars. But an experienced driver will not typically stop and think about which way to turn the wheel in order to move the car in the desired direction (or theorize the geometric angles necessary to park the car or the physics involved in the wheel's relationship to the tires and the engine); s/he will just turn the wheel more or less automatically and make minor adjustments as needed.

In addition to being an example of low road transfer, driving also illustrates the Bo Peep theory of transfer. In this example, transfer more or less takes care of itself. The process Perkins and Salomon describe as "deliberate mindful abstraction" ("Teaching" 25) is not involved in the activity of an experienced driver parallel parking a car under normal conditions. Perkins and Salomon point out that "[t]he implicit assumption in educational practice has been that transfer takes care of itself" ("Teaching" 23). This observation helps to explain that educational practice has relied predominantly on only one understanding of transfer--low road transfer. But, according to Perkins and Salomon, not all transfer happens this way. Some transfer, what they define as high road transfer, "depends on deliberate mindful abstraction of skill or knowledge from one context for application in another" ("Teaching" 25).

High road transfer, according to Perkins and Salomon, "always involves reflective thought in abstracting from one context and seeking connections with others" ("Teaching" 26). In contrast to low road transfer, high road transfer can

happen even when there is little-to-no structural similarity between the old context and the new context. They explain, “high road transfer is not as dependent on superficial similarities, since through reflective abstraction a person can often ‘see through’ superficial differences to deeper analogies” (“Teaching” 26-27).

Understanding the differences between high road and low road transfer in this way can provide crucial insight into the contradictory transfer scholarship I have surveyed above.

The idea that transfer happens all the time is validated by Perkins and Salomon’s theory of low road transfer. We do, in fact, transfer skills and knowledge frequently and with little effort or attention paid to the mechanism by which it happens (such as when an automobile driver manages to drive a truck without any specialized instruction in how to do so). In particular, this can help us understand some of the motivations of scholars such as Papert, Feurzeig et al. and Polya, who all expressed strong claims about the potentials for transfer. Their arguments about the potential for transfer from computer programming literacy and mathematics training can be viewed as simply an (ambitious) theoretical extension of a quotidian experience of transfer via the low road.

Moreover, Perkins and Salomon’s theory that high road transfer operates differently helps to explain why empirical studies that have repeatedly tried to measure and assess transfer have routinely and consistently produced results that failed to validate or substantiate the hypothesized transfer. Using Perkins and Salomon’s theory of high road and low road transfer, it becomes clear that many of

the empirical studies that failed to demonstrate transfer were hypothesizing outcomes from high road transfer, while the pedagogy and instruction assumed low road transfer, or that the transfer would just take care of itself.

In addition to developing the theory of high road and low road transfer, Perkins and Salomon also further developed Papert's theory about how transfer can flow in two different directions. Recall that Papert theorized (1) that students could transfer knowledge into new situations by drawing from previous experiences, such as the example of a student who could use their existing understanding of how to walk in a circle and apply that knowledge to program the Turtle in Mathland to move in a circle. And (2) that students could transfer knowledge from a current instructional setting out into future situations, such as the example of Michael and Paul when they used problem-solving skills when learning to walk on stilts.

Perkins and Salomon defined these two directions of transfer as backward-reaching transfer and forward-reaching transfer. Papert's circle example (#1 above) would therefore be an example of backward-reaching transfer. Perkins and Salomon explain, "[i]n backward-reaching high road transfer, one finds oneself in a problem situation, abstracts key characteristics from the situation, and reaches backward into one's [past] experiences for matches" ("Teaching" 26). This is an intellectual skill that tends to not "just happen" but can be taught, they argue.

In contrast to backward-reaching transfer, where a student has to reflect on past experiences and apply them to the current situation, Perkins and Salomon explain that forward-reaching transfer is future oriented. To teach forward-reaching

transfer, students must be coached to anticipate future situations in which they might be able to apply a skill currently being learned. Perkins and Salomon explain that “in forward-reaching high road transfer one learns something and abstracts it in preparation for applications elsewhere” (26). Papert’s example of Michael and Paul learning to walk on stilts (#2 above) would be an example of backward-reaching transfer (if, in fact, Michael and Paul were transferring problem-solving skills from programming and applying it when learning to walk on stilts). But if Michael and Paul had been told they would learn to walk on stilts and then coached to use a specific problem-solving strategy to help them learn the geometric principles involved in the physical activity of walking on stilts, it would have been an explicit attempt to foster forward-reaching high road transfer.

From the literature reviewed above, we can see that Perkins and Salomon have developed four key concepts that can help us better understand transfer including (1) high road transfer, (2) low road transfer, (3) forward-reaching transfer, and (4) backward-reaching transfer. These key concepts comprise a theoretical framework that can be used to make sense of the contradictory claims about transfer that I have discussed. More importantly, this framework can also be used to analyze the current state of transfer research in the field of rhetoric and composition.

PART FOUR: APPLYING HIGH ROAD AND LOW ROAD CONCEPTS TO STUDY WRITING-RELATED TRANSFER

“A major theme of writing research in the last decade [1980-1990] has been the recursiveness and complexity of the composing process. In hindsight, we may now recognize that, while demonstrations of this complexity have helped legitimate writing as a respectable area of academic inquiry by illustrating a problem worthy of research, we must now note that our interests in understanding writing and written communication require that we bring order to complexity by elucidating basic principles and regularities in a relatively parsimonious and simple form.”

-- Martin Nystrand
in “A Social-Interactive Model of Writing”

While transfer has been thoroughly investigated by scholars from fields allied with composition studies (most notably education and psychology), only recently¹⁴ have compositionists turned their attention in a systematic and sustained fashion to studying transfer in the teaching of composition. For example, Gerald Nelms and Ronda Dively noted in 2007 that, “[a]lthough the published empirical research on [writing-related] knowledge transfer may be relatively sparse, a few semesters’ experience as a writing program administrator inevitably brings to light the problem of transfer in the form of complaints from non-Composition faculty about students

¹⁴ Excluding the research studies discussed earlier that focused on transfer from Latin to English composition, spelling, grammar, vocabulary, etc.

not having been taught adequately in English 101” (216). This observation underscores how disciplines from across the university expect of rhetorical instruction the kind of “far and wide” literacy transfer that Perkins and Salomon describe.

Even within the field of rhetoric and composition, many scholars tend to share a similar fundamental assumption: that literacy training will transfer far and wide. For example, we assume that students will be able to use the training they receive in first-year composition (FYC) in their future coursework. In a 2007 study of transfer, composition scholar Elizabeth Wardle observes that

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.

(Wardle 65)

Rhetoricians Linda Bergmann and Janet Zepernick express a similar view in a 2007 study in the *Journal of the Council of Writing Program Administrators*, noting that “the writing requirements at many institutions, [theirs] included, stem from the belief that writing is a skill that can, in part, be taught in a writing class dissociated from other disciplinary content, and the corollary belief that what students learn in FYC courses can serve as the groundwork for further writing instruction in more

discipline-specific contexts” (124). Likewise, in 2011, Dana Driscoll expands the scope of applicable situations expected from writing-related transfer, asserting that “disciplinary faculty depend on writing knowledge to transfer. In fact, universities hold an institutional assumption that knowledge, skills, and techniques gained in FYC are able to transfer to other contexts--disciplinary, civic, personal, and professional” (Driscoll n. pag.). And much earlier, in 1987, Nathaniel Teich had already noted that “much classroom writing instruction, including what is called ‘writing across the curriculum,’ is based on the unexamined assumption that whatever skills are being practiced will simply transfer to new content situations” (194). Taken together, these comments made by rhetoric and composition scholars illustrate that transfer is deeply woven throughout a set of shared expectations from a variety of constituents across the university about what first-year composition should accomplish.

However, as Nelms and Dively point out, within composition studies we still have very little empirical research published on the transfer of writing-related knowledge from composition instruction. The lack of such scholarship can make it challenging to formulate persuasive responses to complaints from colleagues (especially those from scientific or social scientific fields) that students “haven’t been taught adequately” to write in first-year composition. Furthermore, we have little evidence, empirical or otherwise, to support even our own notions about how students will be able to apply what they learn in first-year composition when they encounter new rhetorical situations in future courses.

Rhetoric and composition scholars showed an interest in investigating research questions about the transfer of writing-related knowledge as early as 1980, when Ross Winterowd published the article “Transferable and Local Writing Skills” in the first issue of the *Journal of Advanced Composition*. In this essay, Winterowd defined transferable writing skills as “the ‘basics’ of writing: syntactic fluency, control of diction, sense of audience, organizational ability, ‘mechanics’ such as punctuation and spelling” (Winterowd 1). This definition, which emphasizes grammatical concerns more heavily than rhetorical principles (such as audience, purpose, and genre), reflects Winterowd’s interest in linguistics and tagmenic rhetoric. It is likewise in keeping with current-traditional rhetoric that was prevalent in composition instruction at the time of his writing, making it also consistent with the kinds of literacy transfer constituents from across the university expected from composition instruction in the early 1980s.

Moreover, Winterowd’s understandings of writing-related transfer were also consistent with more general theories of knowledge transfer that were being developed in other fields. For example, Winterowd theorized that people learn language in two ways: (1) by natural acquisition and (2) by formal learning through instruction (Winterowd 1). To explicate this theory, Winterowd asserts that “we can learn [through formal instruction] only a very small part of what we need to use a language fluently. The vast part of our knowledge is acquired.” This view of literacy transfer is consistent with Papert’s conception of computer programming literacy transfer, especially his position that, in a Piagetian sense, learning LOGO through

immersion was more natural and effective than learning BASIC through memorization, drills, and direct teaching.

In concluding his remarks about transfer, Winterowd issued what he characterized as a “polemic statement” (3). “It is always a disaster if a faculty pays attention only to the teaching of writing, the designing of curricula, and so on. We need to ask the basic questions and to proceed on the basis of our own knowledge” (Winterowd 3). For Winterowd, the issue of transfer was precisely one such question that rhetoric and composition scholars needed to explore. Essentially, these remarks amounted to an indirect appeal for other rhetoricians to follow his lead by further investigating writing-related knowledge transfer. He also indicated two possible paths that rhetoric and composition scholars could follow to explore transfer: “There is, after all, nothing quite so practical as good theory which we can test, either ‘scientifically’ or in the laboratory of our own experiences as teachers” (3). Thus, in Winterowd’s view, the kind of empirical studies being conducted by educational and psychological researchers, what he described as “scientifically” (using scare quotes), was only one of the available means of rigorous scholarly investigation.

Research methods that were more scientific in nature were the status quo in transfer studies at the time Winterowd published this essay. But repeated attempts to use empirical methods to study transfer have either failed or produced inconclusive results. As Winterowd implied in his “polemic statement,” the empirical methods used by scientists and social scientists are not the only means of

building knowledge and testing theories. Due to the inherent complexity involved in the acquisition and transfer of writing related knowledge, empirical methods, though commonly used, may in fact be ill suited for transfer studies focused on writing. Thus, Winterowd's second possibility, investigating transfer through reflective practice, is even more noteworthy.

In rhetoric and composition studies, the employment of research methods that are less "scientific" in nature is widely accepted. Hence, simply because there is little empirical research on literacy and transfer (as Nelms and Dively have noted), it should not necessarily follow that there is little research on writing-related transfer writ large using other methods. However, David Smit and Elizabeth Wardle both point out that there is in fact an overall paucity of research focused on writing-related transfer conducted by rhetoric and composition scholars. For instance, in 2007, Elizabeth Wardle echoed David Smit's appeal for "systematic research attention paid to transfer from first-year writing courses," noting that although some theoretical work had been done, only three case studies had been published by composition researchers at the time of her writing (65).

Between Winterowd's warning that it would be "disastrous" for composition instructors to teach writing without critically reflecting on when and how students transfer this training to new rhetorical situations (1980) and Wardle's call for rhetoric and composition scholars to investigate transfer more systematically (2007),

only a handful¹⁵ of articles investigating writing-related transfer were published by rhetoric and composition scholars (McCarthy; Walvoord and McCarthy; Carter; Smagorinsky and Smith; Teich; Foertsch; Carroll).

These investigations can be divided into roughly two categories: theoretical (Carter; Smagorinsky and Smith; Teich) and ethnographic (Walvoord and McCarthy; McCarthy; Carroll). The theoretical work can be seen as the more reflective approach to investigating transfer suggested by Winterowd, while the ethnographic work can be classified as more “scientific” (even though it would still be considered primarily qualitative in nature, as opposed to the more quantitative quasi-empirical or empirical research methods that are common in the sciences and social sciences). Together, these two approaches formed the initial basis for the body of knowledge we have as rhetoric and composition scholars concerning writing-related transfer.

Two themes dominate the early composition research focused on writing-related transfer. The first theme engages with ongoing debates among rhetoric and composition scholars about general knowledge versus local knowledge. The second involves the application of cognitive or educational psychology to concerns of how students learn to write in college and how they acquire expertise as rhetors.

Although it is common for rhetoric and composition scholars to cite Perkins and

¹⁵ In her 2007 article “Understanding ‘Transfer’ from FYC: Preliminary Results of a Longitudinal Study,” Elizabeth Wardle wrote that “nearly all research studies of writing-related transfer are confined to the field of professional communication” (65). In the same article, Wardle also notes that, as of 2007, “Composition researchers [had] conducted only three case studies” (65). See McCarthy (1987), Walvoord and McCarthy (1990), and Carroll (2002) for case studies.

Salomon or to discuss their theory of high road and low road transfer, the application of their theory to writing-related transfer has been insufficient. Studies have failed to understand that we were expecting and testing for one kind of transfer (far and wide literacy transfer via the high road), while deploying low road teaching practices (requiring that students practice composing using a generalized writing process) under the assumption, that with sufficient practice, transfer will take care of itself.

The Debate Over General Versus Specific Knowledge

Michael Carter's essay "The Idea of Expertise" is emblematic of the overall direction in writing-related transfer studies. For instance, Carter demonstrates that, within composition studies, questions about knowledge transfer manifest as a debate between cognitive rhetoric on one hand and social rhetoric on the other. Carter explains that those who were identified as cognitivists (e.g. Linda Flower, John Hayes, Richard Young) were interested in identifying broad sets of rules that could be generally applied in many different rhetorical situations. In contrast, those who opposed this position (e.g. Kenneth Bruffee, Lester Faigley) insisted that writing is highly context-dependent, asserting for example, that "knowledge is constituted by a community and ... writing is a function of a discourse community" (Carter 266). Based on this observation, Carter concludes that each theoretical stance produced particular pedagogical views and thereby influenced the teaching practices used in first-year composition courses. Carter challenges the prevailing self-conception held by scholars from each group that their approach was mutually

exclusive with the opposing view. Carter further holds that each view of writing-related knowledge (a strictly general or narrowly specific conception) has particular weaknesses or blindspots that the opposing approach could complement. Ultimately, Carter called for what he described as a “pluralistic” theory of writing¹⁶ (271-74), one that could simultaneously account for general and specific local qualities. While this appeal was an important step in developing a more comprehensive theory of composition pedagogy, it did not solve the problem caused by the discrepancy between our expectations that writing-related knowledge will transfer far and wide (which assumes high road transfer) and our day-to-day practices in first-year composition courses, which assume that transfer will take care of itself (low road transfer operating on the Bo Peep logic).

Peter Smagorinsky and Michael Smith agree with Carter that the debate¹⁷ in educational psychology about general versus specific knowledge was relevant to the field of rhetoric and composition, and they refine Carter’s initial assessment of the opposing sides of the debate. Like Carter, Smagorinsky and Smith applied Perkins and Salomon’s theory of high road and low road transfer to questions about writing-

¹⁶ This is similar to the approach Julie Foertsch advocates for in her *Written Communication* article “Where Cognitive Psychology Applies: How Theories about Memory and Transfer Can Influence Composition Pedagogy.”

¹⁷ Carter points out that, whereas social rhetoricians see cognitive theories as amounting to “a naïve reduction of writing to a set of procedures, ignoring the crucial historical and cultural influences of the contexts in which writers write” cognitive theorists see social rhetorics as impossible because “there are no generic rules that can guide the act [of writing] because it is different in every ‘locality.’” Carter draws this contrast to illustrate the degree to which the two schools are in disagreement about the nature of writing-related knowledge.

related knowledge transfer. And like Carter, Smagorinsky and Smith overlooked the discrepancy between the kind of high road writing-related knowledge transfer we are expecting from first-year composition and the low road transfer practices we are actually using in first-year composition courses.

Smagorinsky and Smith's observation that the process movement is governed by theories of generalizable knowledge is in accordance with Carter's assessment that general theories of knowledge transfer were implicit in the process movement. For example, Smagorinsky and Smith observe that "[t]he assumption that general knowledge is sufficient for most composing needs has driven practice for many years" (Smagorinsky and Smith 282). And Carter explains that

[t]he process movement rested on three related assumptions: (1) that the difference between the performance of experts and novices is that experts possess more effective general strategies than novices, (2) that general knowledge is more powerful than local knowledge, and (3) that general strategies are transferrable from one domain to another. (Carter 268)

Carter and Smagorinsky and Smith are correct to identify the connection between cognitivist theories of generalizable skills and the way we teach "the writing process" in first-year composition courses. In almost every contemporary textbook or handbook used in first-year composition courses across the United States, one will no doubt find sections where the general strategies of "the composing process" are explained to students. For instance, in the section focused

on invention and discovering a topic, it is typical to find suggestions for brainstorming, clustering, and free writing. As Carter puts it, cognitivists hold the position that “successful performance is the result of the application of powerful heuristic strategies” (268). Following this logic, if students learn to follow “the writing process,” they ought to be able to apply the practices in any course in which they are asked to write for any purpose and in any genre. Smagorinsky and Smith clarified that while heuristics were still a very popular pedagogical practice informed by theories that general knowledge is transferrable, within composition studies heuristics “have been supplanted in popularity by general procedures for producing texts” (283), elements typically presented to students in composition textbooks as elements of “the writing process.”

Although Smagorinsky and Smith described invention techniques such as clustering, brainstorming, and mind mapping as nonlinear and therefore not necessarily heuristic, first-year composition textbooks tend to present “the writing process” as a linear sequence of general “best practices” for student writers to follow. Typically, the sequence follows a progression from invention and planning, to conducting research, evaluating sources, taking notes, drafting an argument, obtaining peer review, revising, and finally polishing. However, if we apply Perkin and Salomon’s theory of two kinds of transfer to “the writing process” as it is typically presented in textbooks, we can see that a purely process-oriented pedagogy assumes that writing-related skills and knowledge travel from one rhetorical situation to another via low road transfer.

According to this logic, if the sequence is practiced often enough, students should be able to follow “the writing process” whenever they are called upon to write. Smagorinsky and Smith explained that “[t]he assumption behind this conception of the composing process is that writing consists of a very few simple procedures that one develops and uses effectively through practice” (284). In other words, process-driven pedagogy assumes that writing knowledge and skills will transfer in the same way that driving skills and knowledge transfer: via the low road. Smagorinsky and Smith elaborate that according to the cognitivist general knowledge approach to process-driven composition pedagogy, “while one might need particular content knowledge to write about Freud or the French Revolution, one’s process in executing the tasks or approaching the topics needn’t vary” (284). Once we realize that process-driven composition pedagogy has relied heavily on an assumption that writing-related skills and knowledge are generalizable enough that they should transfer via the low road, we can better understand why scholars and lay people alike expect “far and wide” transfer from literacy *and* why it is assumed that the transfer will take care of itself.

However, as ongoing debates within the field of rhetoric and composition illustrate, the process-driven theory is not the only view of how to teach writing in a composition course. For instance, Smagorinsky and Smith refined Carter’s discussion of social rhetorics when they explained that “task-specific knowledge” (286-88) and “community-specific knowledge” (288-91) are subsets of the larger category of social rhetorics. The task-specific view emphasizes the disciplinary

knowledge that is required for a rhetor to communicate effectively. As Smagorinsky and Smith explain, “[t]he task specific view, then, argues for differentiated instruction, dependent on the particular demands of individual tasks” (288). An individual task, in the way Smagorinsky and Smith present it, amounts to a rhetorical situation. According to the task-specific view, following the generalized procedures of “the writing process” is insufficient because every rhetorical situation is unique.

In contrast to the cognitivist position that the transfer of generalized knowledge about the writing process will take care of itself, the task-specific view assumes that transfer requires overt instruction. Moreover, this view of teaching writing demands that instruction be specific and tailored to each rhetorical situation. For example, Smagorinsky and Smith explain that “[p]edagogy based on the assumption that composition knowledge is task-specific requires an analysis of the particular knowledge required for each type of composition and explicit instruction in the appropriate set of procedures” (288). Instead of following the Bo Peep logic that transfer will be automatic and take care of itself, the task-specific view of writing maintains that transfer will be exceptionally rare because every rhetorical situation is different.

Both social rhetorics (in which transfer is viewed as exceptionally rare) and cognitivist rhetorics (in which transfer is viewed as something that will automatically happen) challenge broader assumptions that transfer from literacy will be far and wide. Additionally, writing-related transfer is so difficult to theorize

and study because the teacher's theoretical stance toward how writing-related skills are transferred influences the day-to-day teaching practices used in the classroom. For instance, a teacher whose theoretical stance is more cognitive may see no need to explicitly discuss transfer with students because of the assumption that the writing-related knowledge gained by practicing the steps of the writing process will automatically transfer without any overt instruction focused on transfer. On the other hand, a teacher whose theoretical stance is more social in nature may likewise see no need to "teach for transfer" because of the assumption that each rhetorical situation is unique. Yet, as Winterowd reminds us, it would be catastrophic for composition scholars to overlook questions about writing-related transfer simply because we lack a research method that is designed to help us study the simultaneously general and specific qualities of writing. We need new research methods that embrace Carter's pluralistic conception of writing and that allow us to examine how some writing-related skills transfer via the high road while others travel the low road. Simply put, rhetoric and composition scholars need to develop new research methods that will help us ask and answer questions about writing-related transfer using modes of inquiry that are aligned to our own knowledge-making practices.

The Need for a New Method

Most studies examining literacy transfer have historically been conducted by psychologists and educational researchers and tend to privilege empirical studies, where objectivity is paramount. To this end, the validity and reliability of the study

protocols tend to be explicitly discussed and documented¹⁸ in the published scholarship.

Although empirical research is sometimes conducted by composition and rhetoric scholars, our objective is generally not to test hypotheses in a logico-deductive fashion in the same way that a scientist or social scientist¹⁹ might do. Furthermore, as early attempts to investigate literacy transfer illustrate, it is very difficult to control the many complex variables involved in learning to read and

¹⁸ In psychological studies, for instance, it would not be uncommon to see an arrangement pattern known as IMRAD. This acronym describes the typical sections found in articles published by scientific researchers for an audience of other scientific researchers: introduction, methods, results, analysis, discussion. The tactical purpose of such documentation in published psychological research is to provide readers with an understanding of how, in a given study, certain variables were tested and how other variables were controlled. The rhetorical purpose of such documentation is to demonstrate to readers that the researchers followed established and accepted protocols, which adds to the ethos of the writers, who understand the importance of valid and reliable research techniques for their readers. Additionally, this kind of explicit documentation enables future researchers to conduct follow-up studies by replicating the original and testing to see if similar results can be obtained. When results from multiple empirical studies produce similar results, scholars are more willing to accept the validity and reliability of the research methods being employed. Research that begins from an a priori hypothesis and uses empirical methods to test the hypothesis can be described as logico-deductive (see Glaser and Strauss for an in-depth discussion of logic-deductive research methods).

¹⁹ Julie Foertsch explained (in personal communication with the author) that while working on her Ph.D. she focused on cognitive psychology with an emphasis on psycholinguistics. While writing her dissertation, she became interested in doing research that could be applied in addition to conducting research in a laboratory. She explained that empirical research in cognitive psychology often takes the form of asking research subjects to perform specific tasks that can be quantitatively measured, such as pushing buttons to indicate choice or response. The researcher, in these scenarios, often uses quantitative methods to measure the length of time elapsed, the number of correct answers, or some other quantifiable metric. Foertsch turned to her minor, composition theory, to work on a project that could be applied in the classroom by first-year composition teachers.

write in college. It would be impossible, for instance, to require college students to abstain from reading or writing in their courses apart from first-year composition. Consider, for example, a student who is concurrently enrolled in a philosophy seminar, a chemistry lecture, and an intro to psychology course. Since it is necessary to read and write in courses across such a wide range of disciplines, it is nearly impossible to isolate or accurately measure how the literacy practices in those courses impact the writing-related knowledge acquired in first-year composition or how the training received in first-year composition influences the reading and writing activities conducted in other (concurrent or subsequent) disciplinary coursework. As a result, it is extremely challenging to design a purely empirical study of writing-related knowledge transfer.

Some contemporary studies of transfer (especially those from social scientific disciplines) may continue to insist on a hypothesis-driven logico-deductive research approach by seeking to verify whether some assumed knowledge or skill transfers from one learning context to a future situation. However, due to the considerable limitations empirical studies present for the investigation of writing-related transfer, purely logico-deductive methods are ill-suited for composition scholars taking up an interest in writing-related transfer.

Qualitative Methods

Unsatisfied with simply finding over and over again that some hypothesized transfer of writing-related skill *x*, *y*, or *z* did not take place as expected, some composition scholars have used ethnographic methods to conduct case studies of

writing transfer. This research method is especially well-suited for those composition scholars who are interested in exploring the complex social dimensions involved in student writing.

An example of the rich details that can be uncovered through ethnographic methods is found in Lucille McCarthy's 1987 case study following one student, Dave, in three courses over a twenty-one month period. To understand Dave's successes and failures in transferring writing-related knowledge and skills, McCarthy used a mixture of ethnographic methods including classroom observations and interviews, which she described as "naturalistic" (236). In addition, McCarthy used composing-aloud protocols, and textual analysis to triangulate her results and thereby ensure the rigor of her work. McCarthy's "naturalistic" methods were better suited to the customary ways of building knowledge in composition studies than previous transfer studies, which had relied heavily on empirical logico-deductive experiments. Yet, while McCarthy's research methods were better aligned with the humanistic ways of building knowledge commonly used by composition scholars, her results were no different from case studies conducted by researchers from other disciplines: they showed repeated transfer failures.

Where one would expect a student in the first two years of college to be able to apply the writing lessons learned for one class when writing for another class, McCarthy reported that her student Dave did not have this experience. Instead, Dave viewed the writing he did in each of the three classes (Freshman Composition, Cell Biology, and Introduction to Poetry) as being completely different. Dave's

account of his experiences writing in these three courses led McCarthy to describe Dave as a stranger in a series of strange lands. As a result of this perception, Dave's ability to transfer writing-related skills was hindered. Specifically, McCarthy explained that "skills mastered in one situation, such as the thesis-subpoint organization in Freshman Composition, did not, as Dave insisted, automatically transfer to new contexts with differing problems and language and differing amounts of knowledge that he controlled" (261). Consequently, McCarthy's case study provided additional evidence of transfer failure in a situation where transfer was not explicitly hypothesized, but, nonetheless, could be reasonably expected.

Although McCarthy's case study was limited by her focus on only one student, she explained that her goal was to "contribute to our understanding of how students learn to write in school" (236). In other words, McCarthy hoped that by providing detailed reports and analysis of the transfer challenges Dave encountered, she could gain a better understanding of transfer challenges students face more generally. McCarthy explained that "[t]hough this study is limited in scope to the experiences of a single student as he wrote for three college courses, it addresses questions central to much writing across the curriculum scholarship" (235).

While unable to yield generalized conclusions, McCarthy's work provides a basis for further investigation of high road and low road mechanisms of writing-related knowledge transfer. Her findings demonstrate the importance of understanding students' perceptions about the variety of rhetorical situations they encounter as they attempt to join a range of academic discourse communities

throughout their undergraduate coursework.

By analyzing McCarthy's conclusion that, "although the writing tasks in the three classes were in many ways similar, Dave interpreted them as being totally different from each other and totally different from anything he had ever done before" (243), through the lens of low road transfer, we can further illuminate transfer failure. We can apply the theory of low road transfer to understand why Dave's writing-related knowledge (that should have been easily transferred according to the Bo Peep logic) was instead inert. To McCarthy (an expert), the different rhetorical situations Dave encountered *were* perceived as having superficial similarity. As a professional composition scholar, McCarthy was able to easily recognize meaningful patterns of similarity²⁰ between the audiences, purposes, contexts, and writerly roles implied by Dave's writing assignments. For example, McCarthy's rhetorical analysis of Dave's writing assignments sees the writerly role his readers expected him to assume as essentially the same in all three of the courses she observed: each of Dave's professors expected him to play the role of a "professional-in-training" and, more specifically, a professional who is training in that professor's given field.

As a novice, however, Dave did not perceive the surface-level similarities between the different rhetorical situations. Instead, he experienced each situation as completely different; that is to say Dave did not perceive the superficial similarities

²⁰ This is akin to the expert chess players that deGroot and Chase and Simon studied who were able to quickly and easily recognize and remember the placement of chess pieces on a playing board if they were arranged into meaningful game-playing scenarios.

that McCarthy identified. Not only did Dave not understand the different ways of knowing used by professionals in each discipline, he was not aware that he was supposed to be playing a role in which this knowledge would be necessary to write effectively. Consequently, low road transfer of writing skills from one course to another did not occur, yielding the results McCarthy reported as a series of transfer failures. This application of Perkins and Salomon's transfer theory sheds light on the vital role that students' perceptions of different rhetorical situations have on the process of transfer. In the next chapter, I propose emergent design as a method and rhetorical theory developed to help us understand how writing-related knowledge and skills transfer, and, in turn, how we can apply these insights to develop first-year composition courses that are designed to foster high road transfer.

CHAPTER THREE

EMERGENT DESIGN: A METHOD AND THEORY

FOR STUDYING WRITING TRANSFER

This chapter offers emergent design as a research method for studying the recent change to the composition curriculum at the University of North Carolina, Chapel Hill, requiring all first-year students to take English 105. I analyze the proposal for the new course, arguing that Writing Program administrators used two competing beliefs about transfer to rationalize and justify the curricular change. To extend previous research on transfer, I designed a three-phase study focused on the implementation of UNC's curricular change to first-year composition. Phases one and three consisted of a repeated measure survey, the entire population of students matriculating in the fall of 2012 (n=3,978) was invited to respond to a survey at the beginning and end of the fall 2012 semester. Interviews and focus groups were conducted during phase two around the middle of the fall 2012 semester.

A NEW METHOD FOR STUDYING WRITING-RELATED TRANSFER

We need a more flexible way of studying writing and the teaching of writing if we are to better understand how writing-related knowledge travels forward and backward along high roads and low roads. Therefore, as an initial step in the difficult process of inventing new research methods to help us study writing-related transfer, I present emergent design.

Emergent design can help us understand transfer, especially within the context of composition studies. Emergent design is a research method that oscillates strategically (and flexibly) between inductive and deductive modes to build and test theory. Because emergent design begins with a research question, but not with an explicit theory to be empirically tested, it helps researchers avoid the pitfalls of forming an a priori hypothesis about particular transfer outcomes that might influence the search for evidence. And because emergent design is open to a combination of qualitative and quantitative methods (what is sometimes referred to as “mixed methods”), it is well suited to larger scale investigations, thereby addressing the challenge of not being sufficiently able to generalize from ethnographic case studies focused on only one or several students.

Emergent design is shaped by three primary assumptions about writing-related transfer:

- (1) Four key transfer concepts of (a) high road, (b) low road, (c) forward-reaching, and (d) backward reaching can be applied to focus on the *movement* of writing-related knowledge and skills as they travel different paths.

- 2) When writing-related knowledge and skills transfer, there is *movement* between general (cognitive) and specific (local/social) rhetorical frameworks.
- 3) The *movements* of writing-related knowledge and skills involved in transfer can be understood as events occurring within a complex network (or an activity system) consisting of people, ideas, and things (or rhetorical artifacts).

First Assumption

Emergent design is shaped by Perkins and Salomon's approach to theorizing and studying transfer. It departs from the historical-social-scientific tradition in which empirical studies focused on measuring *what* (what transferred or didn't transfer) by focusing on *how* transfer happens (the paths knowledge and skills travel as they move from one context to another) (Perkins and Salomon, "Teaching for Transfer"; Salomon and Perkins "Rocky Roads"; Perkins and Salomon "Transfer of Learning"; Perkins and Salomon, "Are Cognitive Skills Context Bound?"). This approach amounts to focusing on the process of transfer rather than the product, a move that is also congruous with best practices in the field of rhetoric and composition, where an emphasis on process over product is well established. Growing out of Perkins and Salomon's model for focusing on the process of transfer instead of exclusively looking for the product, emergent design is especially well suited for composition scholars who want to investigate writing-related transfer.

Second Assumption

Emergent design, as both a research method and a theoretical approach, is also shaped by the pluralistic theory of rhetoric Michael Carter put forth in his essay,

“The Idea of Expertise: An Exploration of Cognitive and Social Dimensions of Writing.” Carter defines his pluralistic theory as “one approach to understanding writing and the teaching of writing as an intersection of both social and cognitive dimensions” (267). Emergent design embraces Carter’s approach, which seeks to find points of connection between the general and the specific local dimensions of writing. Emergent design extends this approach, identifying the intersections of social and cognitive rhetorics as a network, a complex activity system consisting of people, ideas, and things (rhetorical artifacts). Emergent design enables composition scholars to trace the movement of writing-related knowledge between generalized cognitive processes (ideas) and specific local-social applications (the production and circulation of rhetorical artifacts).

Third Assumption

As we have seen from the studies discussed above, knowledge transfer in general is notoriously difficult to study. Studying the transfer of writing-related skills and knowledge is even more challenging because of the complexity inherent in literacy acquisition and application. Emergent design, as a research method, enables composition scholars to study literacy transfer by tracing *movement* between generalized cognitive patterns of writing-related knowledge and the specific local application of writing-related skills. Since the activity of *traveling* is integral to the transfer of any knowledge or skill, emergent design draws from the tracing logics of Actor-Network-Theory (Latour). This aspect of emergent design expands our view of writing-related transfer to include the many human and non-human actors who

may be involved in the *movement* of knowledge or skill at any given time. But simply identifying and following the paths writing-related knowledge and skills travel in the act of transfer is not sufficient in and of itself; emergent design invites composition scholars to build new theories of how students acquire and apply writing-related skills and knowledge in a university setting and to construct pedagogies that emerge out of those new theories.

EMERGENT DESIGN

Understanding writing and the teaching of writing through the lens of emergent design means acknowledging that written discourse is not overly determined or completely controlled by fixed, stable, or universal rules; writing and the teaching of writing are **emergent**. However, writing and the teaching of writing are also not entirely context-specific, local, and contingent; written discourse is **designed**.

Rhetors compose written, spoken, and/or multimodal discourse by traveling pathways of an actor-network. Some pathways are already established; they offer rhetors what the New London Group calls “Available Designs” defined as “semiotic activity as a creative application and combination of conventions” (n. pag.). Other pathways emerge, particularly as the rhetorical constraints of existing conventions transform into rhetorical opportunities for invention. These newly invented pathways may, over time, become conventions and thereby offer new “available designs” to other rhetors. The pathway a rhetor travels is neither entirely designed nor completely emergent. As a rhetorical theory, emergent design helps us understand that in the act of composing, rhetors move back and forth between emergent and designed pathways as they travel. As a research method, emergent design helps us study the movement and trace these pathways.

I offer emergent design as a method for researchers who want to use a range of techniques to collect and analyze data that shed light on the *movement* of writing-related knowledge as it *travels* between generalized patterns and specific local

situations. Within a network, for example, we might focus on several larger collections of nodes that are grouped together as general principles to give a more global perspective on things, but we can also zoom in on specifics by looking at one node of the network in greater detail. A researcher conducting the activity of zooming in and out has a point of view of a traveler, someone who, like the objects of analysis, is in *motion*. In this way, emergent design is not only tailored to address the challenges posed by the simultaneously general and specific components of writing, it also provides the researcher with access to the movement back and forth between these factors as the research focus zooms in or out.

In the next section, I demonstrate how emergent design can be applied to build rhetorical theories about writing-related transfer out of which transfer-oriented pedagogies can emerge. First, I provide a brief explanation of how theories of transfer (especially the four concepts discussed in the previous chapter) can help us conceptualize transfer through the metaphor of travel. This metaphorical framework helps us understand writing as simultaneously emergent and designed.

Using Emergent Design to Study Writing-Related Transfer

The purpose, nature, and function of first-year composition continue to be heavily debated by composition scholars and writing program administrators. For example, on November 3, 2012, Associate Professor of Rhetoric and Composition at Utah Valley University, Bonnie Lenore Kyburz, sent a query to the WPA-L list-serv²¹

²¹ The WPA-L listserv is fully archived and searchable at the following url <http://lists.asu.edu/archives/wpa-l.html>.

asking colleagues to help her identify schools with a two semester sequence of first-year composition (FYC). The title of her email, “Defending the 2 Semester FYC Sequence,” points to the contested nature of debates that include writing program administrators, faculty from across the disciplines, university administrators, parents, and students.

First-year composition has typically been thought of as one of the few truly universal requirements that all undergraduate students are required to complete. Sharon Crowley begins her polemical essays, for example, by asserting that “ever since the late nineteenth century, instruction in composition has been required of all students who enter American higher education” (1). David Russell observes that “[t]he United States is the only nation that requires of most students in higher education a course in what is known as *composition*” (51, emphasis in original). However, the universality of the course is not at all clear-cut.

Some schools require one semester of first-year composition, while others require two. Some interested parties want to reduce the amount of composition instruction students receive while others want to preserve as much instruction as possible (as indicated by the email exchange discussed above). Some students are allowed to test out of one or both FYC courses on the basis of standardized test scores, AP exams, or portfolios examined by faculty in the department. Other schools require students to take some form of composition during their first year followed by an intermediate or advanced composition course before graduation. Still other schools require students to take writing intensive courses in their majors

after completing (or exempting from) FYC. James Berlin has carefully analyzed the various rhetorical approaches taken by American institutions of higher education and noted that “changes in rhetorical theory and practice will be related to changes in the notions of literacy, as indicated by developments in the college curriculum. The curriculum, in turn, is always responsive to the changing economic, social, and political conditions in a society” (5). The questions of whether students should be required to take FYC, how many semesters, and in what format speak to Berlin’s point about the contested rhetorical business of the first-year composition curriculum.

In 2010, similar questions were considered by faculty and administrators at the University of North Carolina, Chapel Hill, during a review²² of the “Making Connections General Education Curriculum” for undergraduate students. Specifically, an eight-member subcommittee focusing on “foundations” courses considered these questions:

Should there be a mandatory one-semester writing requirement (with honors sections offered) for all students who enter Carolina regardless of AP credit or score on the SAT II exam? If that occurs, what are the advantages (and disadvantages) of awarding three or four hours of credit for the one-semester course? (Making Connections Curriculum Review Committee A-1)

²² The “Making Connections General Education Curriculum” was implemented in 2006 and reviewed four years later in 2010 when the first cohort of students completed the four-year undergraduate sequence.

According to the subcommittee's final report, the members "unanimously endorsed the idea of developing a new, one-semester, mandatory writing and oral communication course ... to replace the [then] existing two-semester sequence English 101/102" (Making Connections Curriculum Review Committee D-2).

Prior to this recommendation, composition instruction had been a longstanding feature of Carolina's general education curriculum. The undergraduate curriculum under review already required many students to take both English 101 and English 102. Placement into these courses was based on standardized test scores (see Appendix A). Despite the fact that some students received credit by examination for one or both of the required composition courses prior to fall 2012, written and spoken language skills were highly valued in the curriculum and thought to be essential for all Carolina undergraduates. For example, the "Making Connections" curriculum is divided into three areas that are designed as a scaffold to help students achieve success during their four years of study: (1) foundations, (2) approaches, and (3) connections. The scaffolded approach is explained in the university's mission statement for undergraduate education:

The University of North Carolina at Chapel Hill strives to cultivate the skills, knowledge, values, and habits that will allow graduates to lead personally enriching and socially responsible lives as effective citizens of rapidly changing, richly diverse, and increasingly interconnected local, national, and worldwide communities. The undergraduate experience aims to foster in Carolina graduates the curiosity, initiative,

integrity, and adaptability requisite for success in the complex, demanding environment of the twenty-first century world.

To this end our curriculum seeks to provide for all students: (1) the fundamental skills that will facilitate future learning; (2) broad experience with the methods and results of the most widely employed approaches to knowledge; (3) a sense of how one might integrate these approaches to knowledge in a way that can cross traditional disciplinary boundaries; and (4) a thorough grounding in one particular subject. The General Education Curriculum focuses on the first three of these curricular goals; the undergraduate major is dedicated to the fourth. (Curriculum Review Steering Committee 10)

Written and spoken communication skills are, thus, essential to the goals and values articulated in the university's mission for undergraduate education. Indeed, the first broad area of the curriculum is aptly titled "foundations," implying the vitality of these skills to all other areas of undergraduate education. As the curriculum states, "general education rests upon the ability to communicate effectively" (Curriculum Review Steering Committee 10). These documents demonstrate that the University of North Carolina places a high value on composition and rhetoric and views writing courses as an essential element of undergraduate education.

In accordance with these beliefs and values, first year composition was included in the "foundations" portion of Carolina's general education requirements.

In fact, according to the “Making Connections” curriculum all students were already expected to “successfully complete a two-course sequence of Rhetoric courses” (Curriculum Review Steering Committee 10). However, during the review of the curriculum conducted in 2010, the subcommittee found that English 101/102 was not integral to all students’ academic training because a significant number of students were receiving exemption from one or both semesters of the rhetoric courses. The subcommittee reported that “many students passing out of the 101/102 sequence via SAT, ACT, IB, and/or AP credit are missing key training in writing and oral communication skills” (Making Connections Curriculum Review Committee D-2). The committee members went on to assert that “students presently placing out of 101/102 are not receiving the university-level training desired of a Carolina student” (Making Connections Curriculum Review Committee D-2). The subcommittee concluded that “non-uniform training offered by high schools” and an over-reliance on standardized tests were leaving a noteworthy percentage of students underprepared for the written and spoken communication skills expected of Carolina students and therefore recommended that all students be required to take English 105.

The new course, English 105, was recommended to Dean Karen Gil on October 25, 2010, but required further development before it could be implemented. Rhetoric and composition faculty in the Department of English and Comparative Literature were charged with designing English 105, the proposed one-semester rhetoric and composition course that would replace the two-semester English 101/102 sequence.

While developing the course, faculty members conducted research that validated and confirmed the findings of the subcommittee: “approximately 60% of students [were] exempt from ENGL 101 and 40% [were] exempt from ENGL 102”

(Educational Policy Committee 2) (see Appendix A for the placement score matrix used to determine exemptions). With roughly 4,000 first-year students matriculating each fall, these findings meant that thousands of Carolina students were not being formally trained in rhetoric and composition by the university but were receiving credit for these courses “by examination.”

When rhetoric and composition faculty formally proposed the new course to the faculty council, they explained that

Many students [were] exempting both ENGL 101 (3 credits) and ENGL 102 (3 credits). Students receive credits for these courses but do not receive any instruction in or opportunity for college-level writing, research, or public communication. Further, the methods for determining exemption, including relying on standardized measures, cannot account for the components of college writing crucial to fulfilling Carolina’s mission – namely, the ability to engage intellectually with college disciplinary communities and to participate publicly in the creation and sharing of knowledge. Finally, current practices fail to fully account for the life-long nature of writing development, assuming instead that many students arrive at college with a skill set that equates to having finished learning to write.

(Department of English and Comparative Literature “Proposal to
Replace ENGL 101 and 102 with ENGL 105”)

The foundations subcommittee had already noted that, “the rationale for this change [was] to insure that all Carolina students be trained in university-level writing and oral communication skills” (Making Connections Curriculum Review Committee D-2). Thus, the new English 105 course was designed to do just that--provide university-level training in rhetoric and composition to all incoming first-year students.

The documents analyzed above indicate that there was widespread agreement among faculty and administrators in favor of replacing the two-semester English 101/102 sequence with English 105 and requiring all students to take the new course. Even Chancellor Holden Thorp endorsed the decision requiring all first-year students to take English 105. As reported on April 19, 2011, in UNC’s student newspaper, *The Daily Tar Heel*, Thorpe said, “I think it’s absolutely great ... This gives students a chance to get a taste of college writing” (Martinez). However, an editorial published the next day in *The Daily Tar Heel*, revealed that not all students agreed with the decision. The editorial board wrote, “If the standards for letting students place out of English 101 and 102 are too low, then University officials should raise them. But there needs to be a way for freshmen and transfer students with strong writing skills to opt out of the course” (“Learning How to ‘Right’”). On one hand, the faculty and administrators overwhelmingly endorsed English 105 as a universal general education requirement. As they explained in the proposal

presented to the faculty council, “the rationale for this change [was] to insure that all Carolina students be trained in university-level writing and oral communication skills” (Making Connections Curriculum Review Committee D-2). On the other hand, current Carolina students serving on the editorial board of *The Daily Tar Heel* felt that the course would be a waste of time for some students. They commented, for example, “even if funds and faculty resources free up in the near future, we hope the University won’t further impinge on students’ time to teach them skills they may already possess” (“Learning How to ‘Right’”). The editorial board went on to further elaborate that “all students can improve their writing, but a semester-long class isn’t the best way to serve students who already have mastery over the basics of composition” (“Learning How to ‘Right’”).

An analysis of these two conflicting opinions over the nature and purpose of the course reveals contradictory beliefs and assumptions about college-level composition instruction and the very definition of writing. Student writers on the editorial board of *The Daily Tar Heel* held a limited view of writing, defining it as a discrete set of skills that can be “mastered” by advanced students. Additional writing instruction at the college-level, they believed, was unnecessary for students, leading them to argue in favor of raising the standards for exemption from the course. Elevating the test scores needed for exemption “by examination” was an option the subcommittee who recommended English 105 and the faculty council discussed and considered. However, their view of writing aligned with that of rhetoric and composition faculty in the Department of English and Comparative

Literature, who held a more complex and nuanced perspective. They did not believe that incoming students were deficient in their “mastery over the basics of composition,” but they did believe that rhetorical training was needed not just for some but for all students, regardless of how well they scored on standardized tests. These professional scholars recognized that the university has multiple discourse communities. The new course was therefore implemented so that all students would benefit from advanced training designed to help them identify, understand, and negotiate the various discourse communities in the different disciplines of the university.

The beliefs and attitudes expressed by the student-writers on the editorial board of *The Daily Tar Heel* are not uncommon among undergraduate students. A number of studies (discussed later in this chapter) have shown that a majority of students dismiss the importance of college-level writing instruction because they believe that the kind of writing students do in an English class is categorically different from the kinds of writing they do “in the disciplines,” that is in upper-division courses in their major. In contrast to the beliefs held by rhetoric and composition scholars, these students do not believe that writing can be taught or learned in the same way that a content-based course, such as biology or history, can be taught and learned. Furthermore, scholars who study writing have begun to theorize that precisely these beliefs and attitudes may significantly hinder students learning to write and interfere with their ability to apply what they learn in a first-year composition course later in other courses. The literature further shows that this

is even the case in composition courses that focus on rhetorical training (as opposed to current-traditional courses that emphasize mechanics and grammar or literature-based courses that emphasize reading and writing about literature). When students believe that learning to write in the disciplines happens naturally along the way as they learn more about the content of the field in which they are majoring and reject the possibility that a writing course can facilitate the acquisition of writing-related skills and knowledge, they lack a rhetorical understanding of writing. These students tend to see writing as either “one size fits all,” believing that what works well in one situation should work equally well in other situations or as “completely subjective.”

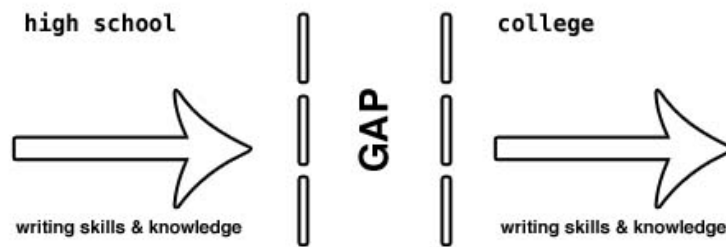


Fig. 3.1. Graphic illustration depicting my interpretation of the problem presented by the proposal

Faculty perceptions that students were not successfully bridging the gap between high school and college were pointed to in the April 15, 2011, Annual Report of the Educational Policy Committee to the Faculty Council as the impetus for the proposed change. The report indicated that “Faculty have found that students who exempt from these two courses [ENGL 101 and ENGL 102] are generally unprepared for college-level expository writing, writing within their major disciplines, and in using university-level research resources” (“Approval”). The beliefs of faculty members about the (in)abilities of students (1) to transfer writing skills from high school to college and (2) to write effectively at the level required in upper division courses without taking first-year composition became the rhetorical exigence for proposing the required course. English 105, the mandatory version of first-year composition, was cast as a fulcrum, the key point on which the transfer of writing skills from high school to college would pivot. We might represent this

approach with an image metaphor²³ such as that in Fig. 3.2. Without first-year composition fulfilling this pivotal role, the argument went, transfer--and as a result academic success, learning, and the production of knowledge--would be impeded.

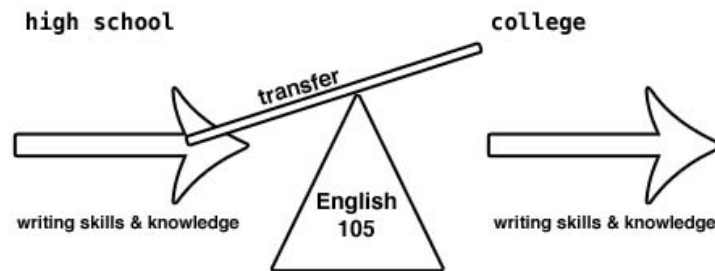


Fig. 3.2. Graphic illustration of my interpretation of English 105 presented as a fulcrum

The proposal hinged on several key (and sometimes competing) assumptions about the transfer of writing skills and knowledge. On one hand, the proposal claimed that college writing is categorically different from writing in high school. Or to put it differently, writing program administrators assumed that writing skills and knowledge gained during high school *did not* transfer to college, or that if they did they were insufficient. For instance, the “Background” section of the proposal asserted, “We also know that incoming first-year students have little or no experience with college writing. College writing differs from writing in high school, which generally reports on existing information.” On the other hand, the proposal

²³ This illustration depicts my interpretation of ENGL 105 as a technology of transfer. I base my use of the term technology on Christensen’s definition of technology (see chapter one). I represent the course as a technology of transfer because of the way in which it can facilitate the *movement* of writing-related skills and knowledge from one context to another.

assumed that the writing skills and knowledge students would gain in first-year composition *would* transfer to other courses students take both concurrently with and subsequent to first-year composition. If we focus our attention on how transfer is framed in this proposal, we see that it is both assumed *to not happen* (from high school to college) and *to happen* (from first-year composition to other courses) simultaneously. This example vividly illustrates the complexity inherent in discussions of writing transfer.

Despite this complexity and the inherently contradictory impulses about when, how, and why writing skills transfer or fail to transfer, the argument was persuasive. On April 15, 2011, the “Proposal to Replace ENGL 101 and 102 with ENGL 105” was formally approved by the faculty council. First-year composition would henceforth be a required course for all students matriculating in the fall semester of 2012 and thereafter. In August 2012, the Office of Undergraduate Admissions estimated the number of first-year students enrolling during the 2012-2013 academic year, the first cohort of students to be affected by this curricular change, to be 3,978.

Background and Significance

Requiring most or all incoming first-year students to take some form of composition is not unique to the University of North Carolina. The “Proposal to Replace ENGL 101/102 with ENGL 105” notes that UNC’s peer institutions such as the University of Michigan, Stanford University, the University of Southern California, The Pennsylvania State University, the University of Washington, the

University of Rochester, and North Carolina State University have all implemented required composition courses without exemptions. As Sharon Crowley has noted, the first-year composition requirement is both historical and controversial. This is partially due to the fact that constituents from across the university have investments in first-year composition. A good deal of these investments stem from a shared belief that requiring students to take college-level composition courses can and will improve their writing and thereby prepare them for the intellectual demands of future courses, professional opportunities, and civic engagements (Wardle 65; Driscoll "Background and Significance"). In other words, people who do not teach composition courses value them because they believe the skills and knowledge students gain about effective writing can be applied or transferred to other contexts.

Recent research on the transfer of writing-related skills and knowledge has shown that students' attitudes and beliefs about writing in general and first-year composition in particular are related to whether or not students actively identify opportunities for transfer of writing skills and knowledge from first-year composition to other situations (Wardle; Driscoll; Bergmann and Zepernick; Driscoll and Wells). Therefore, to better understand how students feel about taking first-year composition, especially in light of the curricular change affecting such a large number of undergraduate students, a three-phase study was designed to measure students' and teachers' attitudes, beliefs, and practices related to writing, research, and first-year composition. The results of the study are reported below.

Established Approaches for Studying Writing Transfer

Borrowing from research in allied fields of sociology, education, and psychology, rhetoric and composition scholars have begun to increase their focus on studying transfer, seeking to understand processes involved when writing-related skills and knowledge travel (or fail to travel) from one situation to another. For example, the fall 2012 issue of *Composition Forum* focused on transfer and illustrates how scholars in our field have taken up the issue, what questions they are asking, the methods they are using to try to answer those questions, and the kinds of studies that have been conducted so far. Jessie Moore's literature review of current research on writing transfer affirms what several of the individual studies she examines also point to: that while we have started to codify a range of approaches for studying writing transfer, we still know very little about it and more research is needed ("Questions About Writing-Related Transfer").

In 2007, Elizabeth Wardle called for "systematic *research attention* paid to transfer from first-year writing courses," noting an overall gap in disciplinary knowledge about the transfer of writing-related skills and knowledge, especially work conducted by composition scholars intended for an audience of composition scholars (65). During the five-year period between 2007 and 2012, a number of studies were in fact conducted and published with the aim of beginning to fill this gap in disciplinary knowledge. Many of studies shared an approach that borrowed and/or adapted social scientific methods to collect quantitative and qualitative data

reflecting students' attitudes, beliefs, and practices in an effort to understand whether and how writing skills and knowledge transfer to other contexts.²⁴

Moore reported that many of the systematic attempts by compositionists to study writing transfer have taken place at single locations, often large research-intensive universities or medium-size science and technology schools in the Midwest ("Contexts of Writing-Related Transfer"). Further, while both longitudinal and short-term studies have been conducted, the methods most frequently used in both kinds of writing transfer studies include surveys, interviews, focus groups, and classroom observations. The study presented in this chapter extends the inquiry into transfer in a way that is consistent with these approaches. While most studies share common methods and demographics (as well as a tendency to see transfer as a problem), there are key differences in the theoretical foundations informing their approaches. Studies can be divided broadly as logico-deductive or inductive, as a brief review of recent research reveals.

The fall of 2007 was a watershed moment for transfer research in the field of rhetoric and composition. Three important transfer studies were published that year in the Fall/Winter issue of *WPA: Journal of the Council of Writing Program Administrators*: Elizabeth Wardle's "Understanding 'Transfer' from FYC: Preliminary Results of a Longitudinal Study," Linda Bergmann and Janet Zepernick's "Disciplinary and Transfer: Students' Perceptions of Learning to Write," and

²⁴ In the literature, these other contexts are often described as activity systems reflecting the complexity and variability of rhetorical situations student-writers confront.

Gerald Nelms and Ronda Dively's "Perceived Roadblocks to Transferring Knowledge from First-Year Composition to Writing-Intensive Major Courses: A Pilot Study." All three of these studies approach transfer as a problem to be solved. Wardle, for example, forecasts her research in her introduction by saying, "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" (66). Likewise, Bergmann and Zepernick introduce their research by framing transfer as a problem when they explain, "we repeatedly observed a tendency among students to actively reject the idea that what they learned about writing in high school or in first year composition (FYC) courses could be applied to the writing they were asked to do in courses in other disciplines. This rejection is particularly problematic ..." (124). Correspondingly, Nelms and Dively write, "Although the published empirical research on knowledge transfer may be relatively sparse, a few semesters' experience as a writing program administrator inevitably brings to light the problem of transfer in the form of complaints from non-Composition faculty about students not having been taught adequately in English 101" (216). By framing transfer within a problem-cause-solution model, all of these studies can be described as taking a logico-deductive theoretical approach. In each case, the researchers draw from published scholarship and personal experience to form an a priori hypothesis concerning transfer. Wardle, for instance, explains, "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" (69).

In contrast to a logico-deductive approach, several recent studies have used grounded theory to study writing-related transfer (Driscoll; Driscoll and Wells; Adler-Kasner, Majewski, and Koshnick). When scholars have used this approach, typically no theory or lens is presupposed; rather, the building of new theory is the goal, which is accomplished by collecting data and identifying themes and patterns (Glaser and Strauss). For example, Dana Driscoll surveyed 153 students within the first two weeks of the semester and again within the last two weeks of the semester using a repeated measures design (“Data Collection”). By analyzing the qualitative and quantitative responses, Driscoll identified four categories of student attitudes toward writing transfer: explicitly connected students, implicitly connected students, uncertain students, and disconnected students. When researchers take a grounded approach, provisional categories are identified a posteriori during the coding process. The categories are then tested and modified as needed throughout the analysis phase of the research. Adjusting categories is a recursive process, which consists of systematic comparative analysis or what some scholars call “constant comparison” (Corbin and Strauss).

Deductive and inductive methods are generally thought to be categorically different as illustrated by the studies above that tend to adopt *either* a logico-deductive approach *or* a grounded theory approach.²⁵ I propose emergent design as a third alternative. This method offers composition researchers who are interested in

²⁵ In *The Discovery of Grounded Theory*, Glaser and Strauss explicitly position grounded theory in opposition to logic-deductive theory: “This book is about the process of generating grounded theory, and so our polemic is with other processes of arriving at theory, particularly the logico-deductive” (31).

studying writing-related transfer a way of capturing the open-ended flexibility of inductive and grounded approaches while also capitalizing on the forward reaching momentum of hypothesis-driven logico-deductive approaches.

In most cases, when research is reported in published scholarship, it is presented as a product--a fixed and stable outcome or discursive artifact arrived at by one or more researchers following an accepted process for collecting data, analyzing results, drawing conclusions, and representing that work in writing. Although the process is implied, the product is emphasized. Emergent design as a research method pushes against this tradition by foregrounding the research process in a move that is heavily influenced by the tracing logics of Bruno Latour's Actor-Network-Theory.

EMERGENT DESIGN AS RESEARCH METHOD

An emergent design approach is meant to shift the emphasis back from the product or end result of the research by focusing our attention instead on research-as-a-process.²⁶ An emergent design approach moves flexibly back and forth between an open-ended, grounded approach and a logico-deductive approach. Flowing from the premise that neither deductive nor inductive approaches are purely one *or* the other, I assert that all writing, all research, indeed all thinking, has both inductive and deductive qualities. Instead of viewing this as a weakness of the method, I propose that researchers describe the ways in which inductive and deductive logics co-inform each other throughout the research and writing process. By acknowledging the oscillations, we make explicit the research process, which necessarily involves movement back and forth between inductive and deductive logics. Furthermore, opening up the research process in this way allows researchers to gain a metacognitive awareness of their own research-in-process and, as a result, may offer a way to strategically leverage the strengths of each mode.

Emergent design as a research method therefore tries to account for the complicated messiness inherent to knowledge production that never happens in a vacuum or as a result of a single stroke of genius in a eureka moment. In fact, despite how we sometimes represent knowledge processes and scientific discoveries in published scholarship (research presented as a product), research-as-a-process

²⁶ Here I am relying heavily on Glaser and Strauss' original conception of grounded theory, especially their comment "Our strategy of comparative analysis for generating theory puts a high emphasis on *theory as a process*; that is, theory as an ever-developing entity, not as a perfected product" (32 emphasis in original).

revealed through emergent design helps show that new knowledge accumulates gradually and provisionally, in context-specific settings, where we build incrementally on existing knowledge. Even the most pure versions of inductive studies assume prior disciplinary knowledge and use existing scholarship to identify a starting point for research. And likewise, even the most pure deductive studies that seek to verify or disprove a given hypothesis are grounded in the provisional trials, results, and findings of other studies and can generate evidence that falls outside of the specific lens selected by the researcher(s) prior to the study. An emergent design approach acknowledges that during research-as-a-process, researchers move back and forth recursively between inductive and deductive modes of thinking. By accepting this as a given, the strengths of each approach can be amplified in rhetorically specific and methodologically sound maneuvers without compromising the rigor or credibility of the study. In what follows I use my own research-as-process to illustrate and support these claims.

Exigence

As composition researchers focus more systematic attention on the transfer of writing-related skills and knowledge, the need to understand students' attitudes, beliefs, and perceptions has become a central theme (Wardle, Bergmann and Zepernick, Driscoll, Driscoll and Wells). Given the curricular change at the University of North Carolina, Chapel Hill, mandating that all incoming students take first-year composition, lively discussions about writing, undergraduate research, and first-year composition were already taking place across the campus

when this study began and provided the context out of which the research questions guiding this study were developed. It is already clear that the rhetorical exigence for this research is derived from a convergence of published scholarship suggesting a number of hypotheses about writing transfer and local context-specific events that I, as a researcher and composition scholar, wanted to make sense of and theorize.

Specifically, drawing from Wardle's inquiry into what students felt they learned and did in first-year composition and whether they perceived the course as helping them with later writing assignments across the university (70), I took up the following research questions:

- How do students feel about first-year composition before they begin the course?
- What are their impressions about the writing, research, and learning goals of the first-year composition course?
- What are their perceptions of why UNC now requires all first-year students to take English 105?

In addition to open-ended qualitative questions, students were also asked to indicate using a Likert-Scale the degree to which they agreed or disagreed with a series of statements about writing in general, the newly required first-year composition course, and the potential to transfer skills and knowledge from first-year composition to concurrent or future courses. Data collection and survey methods are discussed in detail below.

Survey Design

A pilot survey designed to measure first-year students' attitudes, beliefs, and practices related to writing and research was tested in the fall of 2011 prior to the curriculum change mandating that all first-year students take first-year composition. During the pilot test of the survey, a literature review of existing studies measuring students' attitudes about first-year composition was conducted to identify best practices and to verify that the survey design was in keeping with established and accepted research methods practiced in the field of rhetoric and composition.

Following the review of the literature published in rhetoric and composition journals, two key revisions were made to the pilot survey. First, the Likert-Scale survey questions published as Appendix A of Dana Driscoll's 2007 study were adapted and incorporated into the second draft of the survey. Second, drawing from the open-ended questions published as Appendix A of Linda Bergmann and Janet Zepernick's 2007 study, new open-ended questions were developed and added to the second draft of the survey. These new questions were designed to collect a wider range of qualitative responses from students about their impressions of college-level writing.

Both Driscoll's and Bergmann and Zepernick's studies generated empirical evidence about the relationship between students' attitudes about writing and writing transfer. In fact, Bergmann and Zepernick issued an explicit call for further research that might demonstrate the validity and reliability of their study when they wrote, "Follow-up studies with other student populations are clearly necessary to

explore whether our findings can be generalized to a broader range of students” (138-39). Verifying or disproving the results of already published research was not, however, the goal of my study. Here, the utility of an emergent design method becomes apparent.

My study is informed by these previous studies, but I did not set out to test the hypotheses generated from their results. For example, Bergmann and Zepernick found that students who participated in their study actively rejected the notion that writing skills and knowledge could transfer, whether it be from high school to college or from first-year composition to other courses. They further concluded that “the primary obstacle to transfer is not that students are *unable* to recognize situations outside FYC in which those skills can be used, but that students *do not look for* such situations because they believe that the skills learned in FYC have no value in any other setting” (139 emphasis in original). I did not, however, assume that students who participated in my study would feel the same way nor did I hypothesize that the results of my study would prove or disprove their findings. However, their scholarship did reaffirm the value of my first research question, which sought to understand how students felt about first-year composition.

Likewise, Driscoll’s application of grounded theory led her to the conclusion that the students who participated in her study fit into four categories related to attitudes about writing transfer: (1) explicitly connected students, (2) implicitly connected students, (3) disconnected students, and (4) uncertain students. She further concluded that students’ perception of the transfer-ability of the writing

skills and knowledge gained in first-year composition declined from the start of the semester to the end of the semester. I did not assume that students who participated in my study would fit into the same four categories or that their perceptions of the transfer-ability of writing skills and knowledge from first-year composition to other courses or other rhetorical situations would follow the same trajectory. But these findings do provide context for my results and are used as a point of comparison in my discussion. And these findings also reaffirmed my second and third research questions related to students' impressions of the learning goals of first-year composition and the university's decision to require English 105 for all students without exception.

Data collection

Following the review of the literature, the pilot survey was revised during the spring and summer of 2012. Subsequently, the entire population of incoming first-year students (n=3,978) was invited to respond to the survey between July 25 and August 21, 2012. The survey closed at 11:59 p.m. on Monday, August 21, 2012, the night before the first day of classes. This time frame was selected in an effort to measure and assess students' attitudes, beliefs, and expectations prior to their actual experiences in a college-level, first-year composition course.

The survey was administered via email using Qualtrics, an online survey tool. An initial invitation email was generated through Qualtrics on July, 25, 2012 (see Appendix B for the text of the email). Each email contained a unique survey link. After approximately two weeks, Qualtrics reported an initial response rate of 15.2%

(n=606), based on the number of unique links that had been clicked at that time. On August 7, 2012, a follow-up email was sent to the 3,373 email addresses with unique links that had not yet been clicked. Following the first reminder email, 366 additional unique links were clicked, raising the initial response rate to 24.4% (n=971). A final reminder email was sent approximately a week and a half later on August 19, 2012. This final reminder email announced that the survey would close at 11:59 p.m. on Monday, August 21 (see Appendix C for the text of the email). Following the third reminder email, 208 additional unique links were clicked raising the final response rate to 1,179 or 29.6%. Out of these responses, 595 or 14.9% were classified by Qualtrics as usable, meaning that the student provided responses to the survey questions (as opposed to simply clicking the link, reading the survey questions, and abandoning them without providing any answers). Survey participants were permitted to skip questions at will. Three hundred and eighty-nine surveys were fully completed, with no questions skipped during phase one (the early semester survey). The responses collected and analyzed during phase one of this study provide insights into students' attitudes toward college-level writing in general and first-year composition in particular at the point in time before they started any college-level course work to facilitate the measurement of changes in attitudes over time. The time period for attitudinal change measured in this study was the fall semester of 2012, a roughly sixteen-week period during which approximately half of the total number of first-year students enrolled in UNC's newly created English 105 course.

Qualitative data about students' perceptions of the English 105 course and college-level writing more generally were collected through interviews and focus groups conducted during phase two at approximately the mid-term. A post-test survey conducted during phase three of this study at the conclusion of the fall 2012 semester measured change in students' self-reported attitudes over time. As with the pre-class survey, the entire population of first-year students was invited to participate in the study by completing the post-class survey. Qualtrics identified a total of 272 surveys as usable (for a response rate of 6.8%) with 190 surveys completed (for a response rate of 4.7%).

Limitations

The entire population of incoming students were surveyed rather than using a random number generator to sample a portion of the population. Additionally, all responses to the questions discussed in this study were analyzed without any random sampling applied to the responses after the survey closed. It is unknown whether the responses that were collected are representative of the overall population surveyed. The results presented in this chapter are therefore limited by these research design choices as well as by the low response rate. The overall number of surveys analyzed using the repeated measure technique are, however, consistent with other studies of writing transfer published by rhetoric and composition scholars (see, for example, Dana Driscoll "Connected, Disconnected, or Uncertain: Student Attitudes about Future Writing Contexts and Perceptions of Transfer from First Year Writing to the Disciplines").

Analysis

During phase one of this study, analysis began with an inductive approach based on established applications of grounded theory. Survey responses to a subset of questions (n=3,991) were exported from Qualtrics on a question-by-question basis as individual comma separated value (CSV) files.²⁷ All responses were read so that an initial impression could be formed.²⁸ Following Glaser and Strauss's explanation that "In discovering [grounded] theory, one generates conceptual categories or their properties from evidence; then the evidence from which the category emerged is used to illustrate the concept," (23) a priori categories were not applied during the first reading. Initial impressions formed during the first reading were recorded and provisional categories or codes were listed on a sheet of paper.

After provisional codes were generated and noted, each response was then read a second time. During the second reading, each response was coded with one or more provisional categories. At this time, codes were revised in accordance with the process of collapsing outlined by Glaser and Strauss. Finally, all responses were read a third time. Codes that were added mid-stream during the second reading were applied during the third reading and further code adjustments and revisions were made as needed. In keeping with published scholarship using grounded theory, making sure that each response was "correctly" coded was less important

²⁷ All identifying information such as names, student ID numbers, email addresses etc. were removed in the export process.

²⁸ See appendix D for survey questions. Only questions pertaining to students' attitudes, beliefs, and practices related to writing were analyzed for this study.

than tracing patterns running throughout the responses that I, as a member of a particular discourse community, interpreted as meaningful and relevant to the research questions guiding my study.

With all responses coded, I queried the files using database software to count the frequency of each category. Being able to visualize how many times responses to a given question were coded with “clarity” as opposed to or in addition to “grammar” provided an initial data set that was used to identify points of connection between categories. For example, in response to the question “what does it mean to write well at the college level?” the following provisional categories were listed:

Table 3.1 Provisional categories used to code responses to the question “what does it mean to write well?”

Clarity and Concision	175
Evidence/Research	53
Persuasion	36
Vocabulary	76
Flow/Style/Tone	92
Citation	19
Voice	5
Lack of Fluff	6
Maturity and Confidence	36
Purpose	17
Audience	32
Organization/Focus/Scope	46
Thesis	15
Ideas	38
Logic	37
Able to build on existing knowledge with new ideas	13
Publishable	4
Grammar	84
Genre	7
Ability to respond to feedback	1
Revision	4
Uncertain	8

Next, using the code frequencies illustrated in table 3.1 above, provisional categories were collapsed thematically. For example, lack of fluff (n=6) was combined with clarity and concision (n=175) bringing the new frequency for clarity and concision to 181. Likewise, the provisional category of voice (n=5) was combined with flow/style/tone (n=92) into a new category of flow/style/tone/voice (n=97). Code frequencies help illustrate patterns and themes that emerge as the data sets are analyzed and interpreted.²⁹

²⁹ I am assuming that when a researcher assigns a code to a response there is already a first layer of abstraction and that therefore the frequencies create a second layer.

There were two moves happening in tandem throughout the data analysis phase. Provisional categories that could be collapsed (a smaller category is fit into a larger category without redefining the larger category) or combined (two categories are merged and a new label is assigned) were identified. Concurrently points of connection between the categories were also identified during the collapsing and combining process. After identifying connections between individual categories, clusters or groups of related categories were established.

Table 3.2 Illustration of categories being grouped into clusters

Clarity and Concision	181
Flow/Style/Tone/Voice	97
Vocabulary	76
Maturity and Confidence	36
Organization/Focus/Scope	46
Persuasion	36
Audience	32
Purpose	17
Evidence/Research	53
Ideas	38

Table 3.2 above illustrates clusters of categories that were formed during the collapsing and merging process. Based on the clusters of categories, labels or descriptive names were then given to the overarching conceptual categories.

Table 3.3 Illustration of clusters as over-arching conceptual categories

Rhetorical Style		
	Clarity and Concision	181
	Flow/Style/Tone/Voice	97
	Vocabulary	76
	Maturity and Confidence	36
Rhetorical Principles		
	Organization/Focus/Scope	46
	Persuasion	36
	Audience	32
	Purpose	17
Critical Thinking		
	Evidence/Research	53
	Ideas	38

Each step in this process created an opportunity for critical interpretation. Within each interpretive move, there is an oscillation back and forth between deductive and inductive cognitive processes on the part of the researcher. For example, once the four categories clarity and concision, flow/style/tone/voice, vocabulary, and maturity and confidence were grouped together, I began to conceptualize these clusters of elements into an overarching category I labeled “rhetorical style.” I did not begin the data analysis process with a pre-existing category of rhetorical style in mind nor did I test my results to verify if they matched this previously determined category (what would have been a more purely logical and deductive move), but rather I established rhetorical style as an overarching conceptual category through a (mostly) inductive process. However, as soon as rhetorical style was established as an overarching conceptual category, I shifted into a (mostly) logical and deductive mode by then testing each of the remaining categories to see if each one fit into that larger category.

Therefore, rather than attempting to use only inductive or deductive moves throughout the analysis process, an emergent design approach moves flexibly back and forth, iteratively and recursively, between induction and deduction. In the discussion section that follows, I demonstrate how new research questions are prompted throughout this process and how the direction of the multi-phase project is emergent rather than overly determined from the outset of the study.

The conclusions reached through an oscillation of inductive and deductive moves during phase one shaped the questions used to interview students and instructors during phase two. However, to be able to compare changes in students' attitudes and perceptions over time, the same survey questions were used during phase three with only relevant grammatical changes made to questions presented to students who completed first-year composition during the fall 2012 semester. For instance, the pre-test question "How do you feel about taking first-year composition?" was changed to "In general, how do you feel about having taken first-year composition?" Using the same questions for the pre-test and the post-test enabled the comparison of self-reported changes in students' attitudes over time as measured by a *t*-test with statistical significance indicated by a *p*-value of less than 0.05.

Results

Results from phases one and three are reported in five matched categories. Phase one results indicated that, prior to beginning first-year composition, student-participants in this study

- (1) Believed that the ability to write well is linked to academic and professional success;
- (2) Tended to see themselves as competent writers but also felt that they need additional training in writing at the college-level;
- (3) Perceived college-level writing as distinctly different from high school writing;
- (4) Had a tacit rhetorical understanding of writing but their definitions tended to privilege elements of style (clarity and concision) over concerns of audience and purpose with little awareness of genre;
- (5) Believed that not only *could* the training received in first-year composition be applied to the writing they would be asked to do in other courses but that it *should*.

Below, I discuss each of these findings using a repeated-measure analysis to compare students' responses from phases one and three.

1. Students' Perceptions About Writing: The Ability To Write Well Is Linked To Academic Success

During both phase one and phase three, students were asked to express, using a Likert-Scale, the degree to which they agreed or disagreed with the statement, "The ability to write well is important to academic success in college." During phase one, an overwhelming majority of students (n=377) either agreed or strongly agreed with this statement.

Table 3.4 Likert-Scale of phase one results showing student agreement with the statement about writing ability and academic success

Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Responses
The ability to write well is important to academic success in college	1	1	6	98	279	385

These results accorded with phase one comments students made about writing more broadly. One student wrote, “When I think of college, I think of – in general – many extended essay assignments.” Another student commented “Writing is extremely important to all classes and I need to get better.” Taken together, these results indicate that students perceive writing, in general, as a vital part of the collegiate experience and a skill that is necessary for academic success in general.

Students were not sure, however, if writing is universally applicable to each and every class. One student for example remarked, “Writing is a foundation for all areas of study except, maybe, LFIT [physical education and health] classes” while another said, “I am an intended math major, and therefore I do not think the skills in taught in English 105 will be applicable towards my major.” Several students identified themselves as planning to major in math and therefore saw the ability to write well as unnecessary for their chosen academic discipline. However, even students who did not see writing as important for their major tended to either agree or strongly agree that writing well is related to academic success more broadly as demonstrated by one student who strongly agreed with the statement “The ability to

write well is important to academic success in college” but also commented “Most of my other courses will not necessitate good writing skills as I will be taking mainly math courses.”

Table 3.5 Likert-Scale of phase three post-test survey results showing student agreement with the statement about writing ability and academic success

(Sub)-group	Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Responses
Did take FYC fall 2012	The ability to write well is important to academic success in college	1	0	1	29	93	124
Did not take FYC fall 2012	The ability to write well is important to academic success in college	1	2	5	37	62	107
Combined	The ability to write well is important to academic success in college	2	2	6	66	155	231

Students attitudes about the importance of writing well to academic success in college did not show a statistically significant change as measured by the comparison of pre-test and post-test survey responses as illustrated in table 3.5 above. These results were compared using SPSS to conduct a *t*-test of paired values ($n=79$) from students who completed both the pre-test and post-test surveys. Statistical significance in this study was determined by the commonly accepted metric of a *p*-value less than or equal to 0.05. Phase three results thus resembled

phase one results with an overwhelming majority of students (n=221) who either agreed or strongly agreed with the statement, “The ability to write well is important to academic success in college.” The p -value of 0.159 for this statement indicates that whatever change over time that was measured from the paired t -test was not statistically significant. Therefore, results indicate that students’ attitudes about the importance of writing well to overall academic success in college remained relatively stable and that at the conclusion of the fall semester students who participated in this study still believed that writing well is important to academic success in college.

2. Students saw themselves as competent writers but also felt that they need additional training in writing at the college-level

Regardless of whether or not they perceived writing as enjoyable during the phase one pre-test, students tended to view themselves as competent writers. A majority of respondents to the phase one survey (n=257) either agreed or strongly agreed with the statement “I am a good writer” while significantly fewer (n=31) disagreed or strongly disagreed.

Table 3.6 Likert-Scale of phase one pre-test results showing student attitudes about themselves as writers

Question	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Responses
I enjoy writing	31	56	103	119	73	382
I am a good writer	3	28	97	190	67	385

Even though a majority of students (n=257) expressed confidence in their writing abilities during the phase one pre-test, some students also expressed a belief that college level composition training would be useful and applicable because they felt they would benefit from extra practice. One student commented, for example, "Composition skills are so important, regardless of what each student majors in. Each student needs to learn/refresh/practice writing skills in a college setting so that they will be prepared for future classes and/or jobs." Even students who felt confident in their abilities to write before arriving at UNC expressed a sense of awareness that what constituted good writing in other circumstances may be different at UNC. For example, one student said,

If there is anything I've learned in high school writing, it is that writing itself is fickle. Sometimes you hit the bullseye, sometimes you don't. Different teachers have different tastes in what they consider 'good writing.' There is a huge margin for interpretation. Also, the prose writing of high school may not translate well to writing for law, business, science, or other fields. UNC requires us to take composition, I believe, because of these reasons. The goals of college-level writing are different than that of high school, which undermines the sensibility of letting students run right into that change without preparation just because they have AP English credits.

This comment reveals not only an impression that college level writing is important for academic success but also an awareness that writing in college is distinctly different from writing in high school.

Results from the phase three post-test, indicated a statistically significant difference in students' reported perceptions of themselves as competent writers. This was the case for both subsets of participants, those who took first-year composition in the fall and those who did not.

Table 3.7 Likert-Scale of phase three post-test results showing student attitudes about themselves as writers

(Sub)-group	Question	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Responses
Did take FYC fall 2012	I enjoy writing	8	16	28	48	24	124
Did not take FYC fall 2012	I enjoy writing	9	17	31	30	19	106
Combined	I enjoy writing	17	33	59	78	43	230
Did take FYC fall 2012	I am a good writer	0	3	15	69	37	124
Did not take FYC fall 2012	I am a good writer	1	5	26	55	20	107
Combined	I am a good writer	1	8	41	124	57	231

The results reported in table 3.7 above indicate that students' perceptions of themselves as competent college-level writers increased over the fall semester regardless of whether they were enrolled in first-year composition. The mean score

for students who took first-year composition in the fall of 2012 rose from 3.84 to 4.33 on a five-point scale ($p = 0.001$). The mean score for students who did not take first-year composition in the fall of 2012 also rose but the mean score for those students started out lower at 3.5 and rose more slightly to only 3.84 on a five-point scale ($p = 0.013$).

3. Students' Perceptions of Writing Well in College

While students expressed a range of concrete ways in which they saw writing as linked to academic success, their perceptions of what it meant to write well at the college level were more conceptual. My analysis of students' phase one qualitative responses revealed five overarching themes including rhetorical style, rhetorical principles, critical thinking, conventions, and process. These themes were identified by coding open-ended responses to the question of what it means to write well at the college level. Each theme from phase one is presented below.

Rhetorical Style

The most dominant theme identified by coding responses to the question of what it means to write well at the college level is that students held clarity and concision to be virtues of effective writing. For example, one student explained that writing well is "To be able to clearly and concisely argue your point of view or opinion." Other students expressed similar views with statements such as, "Writing well means writing clearly so that people understand your point and your reasoning behind it ..." and "To 'write well' at the college level means to clearly and concisely write using intelligent vocabulary." Clarity and concision ($n=181$) thus constituted a

subset of an overarching category that I have labeled rhetorical style. Other subsets of rhetorical style include flow/style/tone/voice (n=97), vocabulary (n=76), and maturity and confidence (n=36). In sum, 390 responses were coded as expressing style as a feature of writing well at the college level.

Rhetorical Principles

While student responses more often included comments about style, they also frequently included comments that were categorized as rhetorical principles, which included the sub-categories of organization/focus/scope (n=46), persuasion (n=36), audience (n=32), and purpose (n=17). One student for example said that, "'Writing well' at the college level means being aware of the audience of one's writing and writing in a way that is professional and that also fulfills the goals of the writer." This comment reflects an awareness that style (writing professionally) is related to rhetorical principles such as audience and purpose. In the discussion section that follows, I will illustrate how, taken together, the categories of rhetorical style and rhetorical principles indicate that students who participated in this study already had a tacit rhetorical awareness of writing when they began first-year composition.

Critical Thinking

Although not mentioned as frequently as rhetorical style or rhetorical principles, critical thinking was a third thematic element traced in students' descriptions of college level writing. Despite the fact that students' understanding of what kind of research they might be doing in a college level composition course was uncertain, they showed an awareness that doing some sort of research is typically

involved in college level writing. Some students described what it means to write well in practical terms such as, “To be able to write a research paper, with a thesis formed correctly and with sources noted correctly.” Student responses describing effective writing in terms of critical thinking also included sub-categories of building on existing knowledge with new ideas (n=51), logic (n=37), thesis (n=17), and publishable quality (n=4). One student’s response illustrates how the category of critical thinking overlaps with rhetorical style and rhetorical principles. This student responded, “The usual: mastery of grammar, logical ordering of ideas, seamless integration of research, extensive yet appropriate vocabulary, and so on. Basically, it means pleasing the professor who has to read the piece.” This response also bleeds into the next category, conventions, with its mention of grammar.

Conventions

Conventions were the fourth theme that emerged in students’ responses to the question of what it means to write well at the college level. Subsets of conventions included grammar (n=84), citation (n=19), and genre (n=7). Although grammar was the most frequently mentioned aspect of the conventions category, in most cases it was contextualized as something that students assumed is taken for granted and assumed to be pre-existing knowledge for college level writers. For example, one student explained:

I think “writing well” applies both to technicality and style of writing. At a college level, proper grammar and spelling should hopefully be second-nature. By this point, students should hopefully have a distinct

voice when writing, whether it be in essays or scientific research or even short response questions.

Another student expressed similar sentiments about grammar by saying, “Flawless grammar. Basically something a professor can read and not have to focus on grading and more focus on the facts being presented.” For this student, “flawless grammar” was cast as a feature of writing that is assumed so that readers can focus on ideas over surface level concerns. This comment illustrates another point of overlap between the themes by connecting conventions and critical thinking.

While no students explicitly mentioned genre in their comments about writing well at the college level, a small number of students (n=7) expressed views that implied an unstated awareness of generic conventions. One student said, for example, that writing well means “You can write in a way that is intelligent and put together. Knowing what kind of writing is appropriate for each situation.” This comment demonstrates that the student already understands that writing is context-specific and that different kinds of writing may work better in different rhetorical situations. Another student remarked that writing well is “Being able to write in a number of different disciplines and on a number of different topics...” Comments like these suggest that students’ do not yet explicitly identify genre awareness as a skill mastered by effective writers. For example, by referencing different disciplines, the comment above signals an understanding that different discourse communities have different expectations and further that disciplinary conventions within those communities influence the kinds of writing that will be considered effective by

members of a given disciplinary audience. In other words, this student showed an understanding that there is no single universal definition of what it means to write well but that effective writing is rhetorically appropriate for the given rhetorical situation. Because genre is emphasized in the UNC Writing Program and so few responses were coded as falling into this category, I view genre, in a logico-deductive move, as a category by negative definition. In the chapter that follows, I will take up these results and argue that by tapping into students' tacit rhetorical awareness their writing skills can be extended through composition training focused on genre.

Process

Process emerged as the fifth theme also by negative definition in a logico-deductive move similar to the one described above related to genre. Even though only a very small number of responses (n=5) were coded in two categories related to process, the results merit discussion. On the few occasions when process was mentioned by students, it was subordinated to other concerns such as style. For example, one student explained:

I think that "writing well" at the college level involves style and character, but also a deep understanding of what you are writing about. Therefore, it also indicates that the writer must write responsibly. This means being grammatically compliant and obedient to writing formats. This also requires fine tuning of written work; writing multiple drafts and editing multiple drafts.

Process-based composition pedagogy is well established, accepted, and widely practiced among rhetoric and composition instructors in most college level writing programs. However, these results may suggest that the writing instruction students receive in high school is not as process based as what we assume to be the status quo in college level writing instruction.

4. Students' tacit rhetorical understanding of writing

The themes identified by analyzing responses to the question of what it means to write well at the college level indicate that the students who participated in this study had a tacit rhetorical awareness about writing at the outset of the semester but also that their impressions of what it means to write well may be described as sophistic based on the emphasis placed on elements of style throughout their comments. Both genre and process are emphasized in UNC's Writing Program curriculum and in the justification for abolishing English 101 and 102 in favor of universally requiring English 105, but students did not yet recognize these or at least did not mention them as key features of writing well.

Students' perceptions of college level writing in general did not always match their expectations for the kind of writing they would do in the newly required first-year composition course. Uncertainty (n=70) was a dominant theme in students' expectations about the first-year composition course. While students were able to articulate a general sense of what it meant to write well within a college context, their expectations about first-year composition were far less certain. As one student remarked, "I'm not sure what to expect. I just assumed lots of papers that are 15

pages long. Much longer than highschool [sic] papers.” Other students were even less certain about what kind of writing to expect in first-year composition, responding, “Actually, I’m not even sure,” “I do not know what to expect. There might be writing prompts,” and “In total honesty, I have not the slightest idea.” Some students were uncertain but optimistic as was the one who wrote, “I’m not sure, but I hope that it will break the standardized mold which high school English courses create.” Others were uncertain but compliant, seen in responses like, “I have zero idea. I will just write whatever they tell me to write” and “Whatever the professor tells me.”

Even students who selected a Writing in the Disciplines composition course such as Writing in Law, Writing in Health and Medicine, Writing in Business, or Writing in the Humanities, for example, were not entirely sure what to expect. One student remarked, “I’m not sure. I have never experienced an English class for sciences.” Another student said, “I have a very vague idea of what this class entails. I chose English 105i – writing in humanities, so hopefully it will be a little less dull than the standard 105.”

Regardless of the version of English 105 students planned to take when they responded to the pre-test survey, they tended to view the course as a way to learn about what is expected of them across the disciplines in upper division courses as well in future career settings. Put another way, students expected the skills and training provided by taking first-year composition to transfer forward to future rhetorical situations. One student, for example, explained, “Well, if I plan on doing

research in either chemistry or in any of the pharmaceutical areas, I will need to know how to write research papers that are journal quality. Also, learning to write within my field, so that I can present to other professionals in the same area, is crucial." Another student put it more directly, "I expect to learn the formats and principles of formal scientific writing." These students indicated that they were planning to major in scientific fields and their comments demonstrate their awareness that professionals in scientific fields have certain expectations for how other scientists should write. Based on their comments, students did not yet assume they knew how to write in these ways but the statements do indicate that students expected to be introduced to the skills necessary to do so in their first-year composition course. These results support the findings reported earlier indicating that students perceive writing in college to be distinctly different from their previous writing experiences and reinforce the notion that students had a tacit rhetorical awareness about writing before they began a college level composition course. These comments also demonstrate that it is not only parents, teachers, administrators, and future employers who expect transfer: students who participated in this study expected their experiences in first-year composition to transfer to their future course work and beyond to professional, civic, and personal discourse communities after college.

Even students who did not reference explicit career goals tended to view the course as a way of learning how to write in the disciplines of the academy. For example, one student said about first-year composition, "I think we will be writing a

lot of papers to help us with the rest of our time at Carolina.” Another student speculated about the kind of writing expected in first-year composition as “a great deal in terms of various types of writing for different types of courses and for my total career at UNC.” Although these comments indicate a shorter-term horizon than the comments analyzed earlier, they nonetheless demonstrate an expectation of transfer from first-year composition to other coursework.

Students’ pre-test comments about their expectations for first-year composition revealed that, even while students were uncertain about the kinds of writing they might be asked to produce in the course, they tended to assume that whatever they would be asked to do, it should help them write more effectively in their other courses. This accords with their impressions reported below about why UNC now requires first-year composition for all students and again demonstrates transfer operating as an unstated assumption about the nature, purpose, and function of first-year composition within this particular university setting at this particular historical moment.

5. Expectations about Writing and Research in English 105

As indicated by the results above, students who participated in this study during the phase one pre-test had a distinct impression that the required first-year composition course was explicitly designed to prepare them for success, academically, at UNC. Moreover, participants made comments that showed an expectation that the long-term benefits of the writing instruction they received as undergraduates would extend even far beyond their time in college when they

encountered new professional, civic, and personal rhetorical situations after college. For instance, one student remarked, “Everyone needs to know how to write effectively, and so UNC has made it a requirement because it is important in this global community.” Another said, “Being able to write well is an indispensable skill in virtually any field, so I think it is important to make sure that all students are able to do so.” These comments continue to demonstrate the pervasiveness of the participants’ assumptions about transfer. These comments further illustrate how the university’s unstated assumptions about transfer were nonetheless central as a logical basis for students’ interpretation of the rationale for the recently implemented decision requiring that all students complete first-year composition.

Contrary to the results of other studies of writing transfer in which researchers observed that students “actively reject[ed]” the notion that the skills and knowledge gained in first-year composition can be applied to other courses and other contexts (Bergman and Zepernick), students who participated in this study were overwhelmingly confident not only that these skills and knowledge *could* transfer but that they *should*.³⁰ For example, when asked to share their beliefs about why UNC now universally requires students to take English 105, one student commented, “First year composition allows students to prepare themselves for the rigors of college and undergraduate research.” Another student remarked, “It is an

³⁰ There were no questions included in the pre-semester survey designed to collect data about how students formed these impressions of first-year composition so there is no evidence that allows for speculation about what might account for the remarkably contrasting results pertaining to students’ attitudes about transfer in the two studies. This is an area of inquiry that can be explored in future research through student interviews.

introduction to writing in the higher-level academic world and helps students to hone their high school writing skills into skills that will take them beyond college to the professional world.” A number of students described the course as foundational with comments such as “I believe that UNC requires all first-year students to take a first-year composition course because it serves as a foundation for all types of studies.” Describing first-year composition as a foundation necessarily implies that this student, along with others who expressed a view of the course as foundational, expected transfer. Moreover, these results show that students’ pre-test qualitative responses as coded and analyzed here were aligned with the expectations of faculty and administrators who persuasively argued that first year composition should be required for all students. The qualitative responses analyzed above accord with the self-reported attitudes measured quantitatively by the Likert-Scale shown in Table 3.8 below.

Table 3.8 Likert-Scale of phase one pre-test results showing student attitudes about ENGL 105 and their expectations related to transfer

Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total Responses
What I will learn in my ENGL 105 course will help me with my other first-year courses	4	6	48	172	155	385
My ENGL 105 course will prepare me for college writing in general	3	5	39	157	181	385
My ENGL 105 course will teach me how to write in my major	5	17	105	162	95	384
I will be able to use the information I learn in my ENGL 105 course in many other college courses	3	6	48	185	143	385
I expect my ENGL 105 course to help me with writing beyond college	6	8	49	175	147	385

It is unclear how to account for the factors contributing to students' pre-test perception of UNC's first-year composition course as being explicitly designed to

help prepare them for future coursework and professional writing demands. For example, one student commented that

Many students' English education thus far is not up to par with the university's standards, and yet the scores they may have gotten on certain tests might place them out of freshman English courses. The required course allows all students to recognize the levels of expectation of the university as well as be more well-rounded for English classes [t]o come as well as the language they will continue to use for the rest of their lives.

Another student explained, "What I've [heard] was that students who've taken AP English and opted out of freshmen English/composition course were not prepared for college writing." These comments support the earlier finding that, at the outset of the semester, the students who participated in this study perceived college level writing at this institution to be different from and more challenging than writing in high school. Additionally, these results point to the possibility that, within peer groups, students have speculated about the university's motivation for changing the general education requirements related to first-year composition.

Another student speculated that

While The College Board is able to provide a brief overview of a student's proficiency in writing, I imagine that the level required at UNC exceeds this. In addition, the first-year compositions seem to lend themselves towards a more centralized and focused goal catering

towards various majors. Most students might show ability to write literary and rhetorical critiques and formulaic writing, but they lack a understanding for the various writing voices and styles necessary for particular subjects as well as proper research techniques.

This statement aligns with the previous comment suggesting that students tended to believe that UNC's standards for disciplinary academic writing are rigorous and that the first-year composition course is positioned as a resource to help them achieve success, particularly in relation to research-based academic writing. Another student affirmed this finding by saying, "First year composition is required to equip incoming students with the proper language skills needed to effectively communicate their ideas and the findings of their research." It is unclear, however, what effect (if any) the positive attitudes and expectations about the nature, purpose, and function of first-year composition expressed by the study participants may have had on their experiences in first-year composition. It is also unclear what effect (if any) the participants' expectations that what they would learn in first-year composition should transfer had on their ability to actually transfer those skills, whether laterally (to other courses they were taking concurrently with first-year composition) or vertically (to future courses taken after the completion of first-year composition). Pursuing these questions is beyond the scope of the current study. These issues should, nonetheless, be explored in future studies.

Table 3.9 Likert-Scale of phase three combined post-test results showing student attitudes about ENGL 105 and transfer

Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total Responses
What I will learn in my ENGL 105 course will help me with my other first-year courses	6	33	66	86	40	231
My ENGL 105 course will prepare me for college writing in general	5	30	60	95	41	231
My ENGL 105 course will teach me how to write in my major	11	58	79	59	23	230
I will be able to use the information I learn in my ENGL 105 course in many other college courses	4	28	61	104	34	231
I expect my ENGL 105 course to help me with writing beyond college	6	30	60	91	44	231

The results shown in table 3.9 above illustrate that the combined results of participants who responded to the post-test survey administered at the end of the semester were less confident overall about whether what they had learned would

actually transfer to other rhetorical situations such as writing for other courses, writing in their major, or writing beyond college. This was the case for those who took ENGL 105 in the fall 2012 semester and for those who were scheduled to take ENGL 105 in the spring 2013 semester. Overall, the combined results above show that out of all statements pertaining to transfer, students were the least confident that their ENGL 105 would help them write in the disciplines; only 35.6% of total respondents (n=82) agreed or strongly agreed with the statement “My ENGL 105 course will teach/taught me how to write in my major.” A higher percentage, 66.9% of respondents (n=252), either agreed or strongly agreed with the same statement during the phase one pre-test survey. Agreement with this statement as measured on a Likert-scale showed the greatest difference in self-reported attitudes over time from the subset of students who took first-year composition in the fall of 2012. Those who were not scheduled to take first-year composition until the spring of 2013 also reported a decline in confidence, but it was not as great as those who took the course (see figures 3 and 4 respectively below). These results indicate that, after one semester of college, students were less confident that the writing-related skills and knowledge gained in first-year composition would transfer to writing in their major, regardless of whether they actually took first-year composition or not.

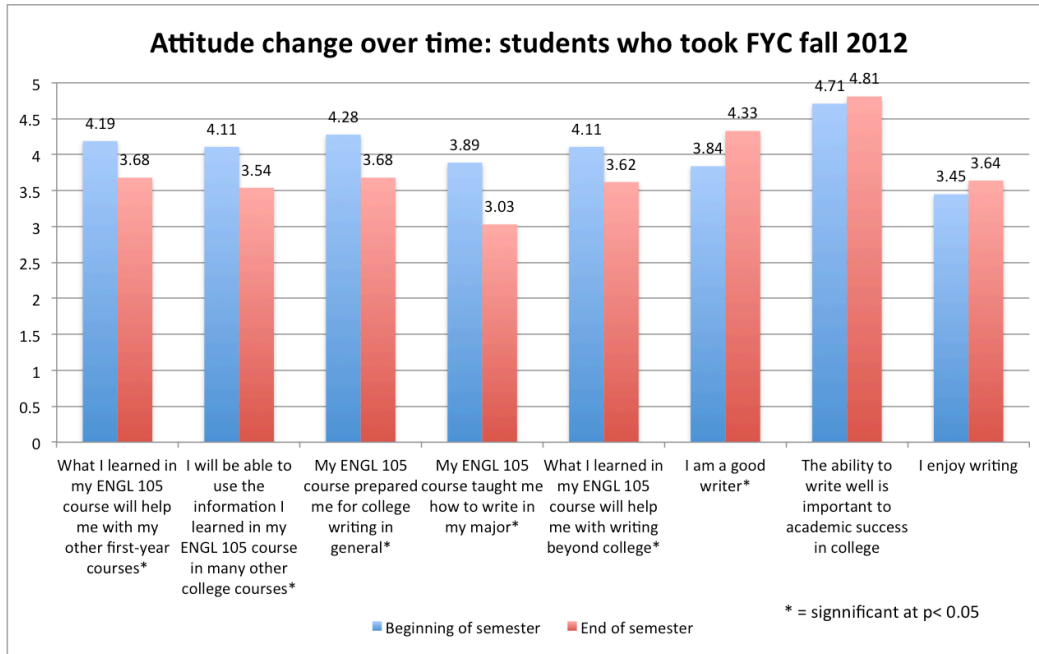


Fig. 3.3. Statistical comparison of participants' change in attitudes about ENGL 105, transfer, and writing in general over time for subset of students who took first-year composition in fall 2012

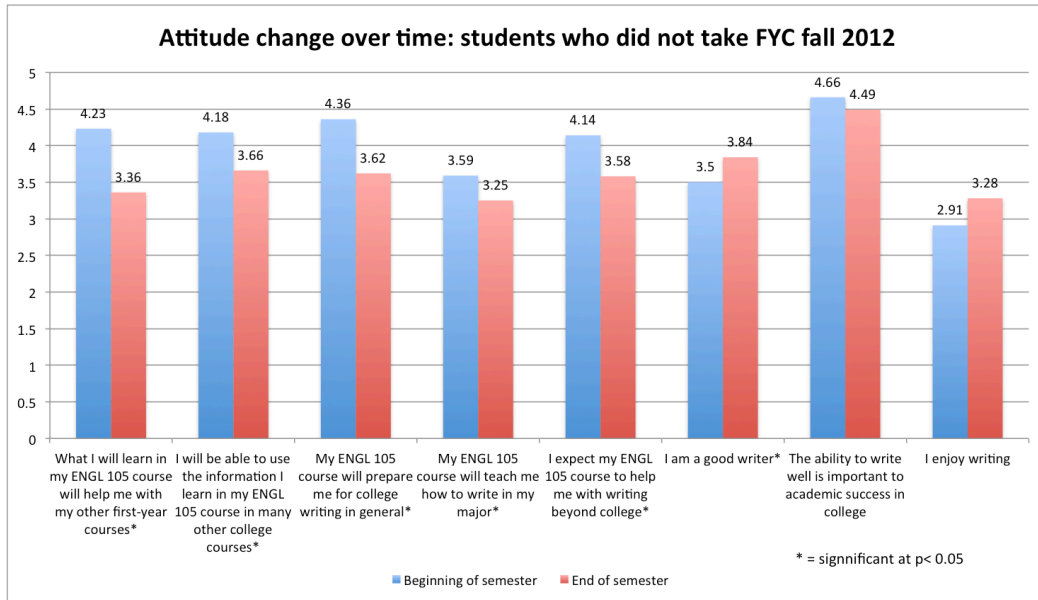


Fig. 3.4. Statistical comparison of participants' change in attitudes about ENGL 105, transfer, and writing in general over time for subset of students who did not take FYC in fall 2012

Table 3.10 Likert-Scale of phase three post-test results for students who completed the fall 2012 semester but had not yet taken first-year composition (These students were scheduled to complete their first-year composition course during the spring 2013 semester.)

Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total Responses
What I will learn in my ENGL 105 course will help me with my other first-year courses	2	18	38	40	9	107
My ENGL 105 course will prepare me for college writing in general	3	10	26	56	12	107
My ENGL 105 course will teach me how to write in my major	5	21	39	33	8	106
I will be able to use the information I learn in my ENGL 105 course in many other college courses	1	13	28	54	11	107
I expect my ENGL 105 course to help me with writing beyond college	2	15	28	43	19	107

Further exploration of the factors that contribute to students' pre-test and post-test perceptions of transfer is needed. This understanding may help us gain a better sense of the role students' attitudes and perceptions about taking required first-year composition courses play in their ability to identify opportunities for the transfer of writing-related knowledge and their ability to apply that knowledge and related skills in situations outside of the first-year composition course. The significance of these results to transfer-related issues of interest to rhetoric and composition scholars is discussed in the next section.

DISCUSSION

Irene Clark and Andrea Hernandez observed in 2011 that “The nature and purpose of the first year writing course continues to generate scholarly debate ... At present, considerable discussion focuses on the question of ‘transfer,’ a term that refers to the extent to which the writing taught in the first year writing class can or should help students write more effectively in other courses and disciplines” (65). This study engages with the ongoing debate concerning transfer and first-year composition by investigating the beliefs, attitudes, and expectations of students before they begin first-year composition. Previous research showed that students had negative opinions of the possibility that the writing done in a first-year composition course could help them in other courses or disciplines. The results of this study complicate those findings by indicating that in some institutional contexts students *do* believe, at least at the outset of the semester, that first-year composition *should* help them write more effectively in other courses and disciplines.

Linda Bergmann and Janet Zepernick found that students at the University of Missouri-Rolla who participated in their study were unable to discern the differences between composition courses and literature courses (130), a finding they attributed to the wide range of approaches used by professors charged with teaching first-year composition in that writing program and also a finding that was supported by Dana Driscoll’s conclusions about the students in her study (Discussion). Students who participated in this study, by contrast, had a clear sense that first-year composition at UNC is not a literature-based course but rather a

rhetoric course explicitly designed to prepare them for writing in academic disciplines.

Bergmann and Zepernick also found that the students who participated in their study tended to perceive writing produced for all kinds of English classes as categorically different from the kind of writing required in other academic courses. Because of this perception, Bergmann and Zepernick concluded that students did not look for opportunities to transfer writing skills and knowledge. These results were also supported by Driscoll who found a “large amount of students who are unsure of or do not see the applicability of [first-year composition] in other situations at the end of the course.” Students’ comments from this study, however, vividly illustrate that they were in fact able to distinguish between literature courses and composition courses. For example, the student who said, “I expect to learn the formats and principles of formal scientific writing” clearly did not perceive the writing in first-year composition to be primarily belletristic, unlike the students in Bergmann and Zepernick’s or in Driscoll’s studies. Again, in contrast, the results reported here illustrate that, at least at the beginning of the semester before the course began, students did expect to do disciplinary writing in their first-year composition course, even scientific writing expected for students majoring in chemistry or pharmacology. Thus, whereas Bergmann and Zepernick “heard students actively reject the possibility that what they learned in high school English classes or FYC could be applied to writing in their disciplines” (125), the results of this study show that students in the UNC writing program began first-year

composition course in the fall of 2012 with an explicit expectation that the course would help them in the writing skills necessary for academic, professional, and personal success.

The results of this study further complicate previous research findings by showing that the students who participated in this study overwhelmingly believed that first-year composition *should* contribute to their academic success in college. At the University of North Carolina, Chapel Hill, the institutional setting where this study was conducted, it is not only the writing program administrators who regard first-year composition as a fulcrum between writing in high school and writing in college but, as the survey results reported above reveal, first-year students hold this belief as well. Previous studies of students' attitudes about first-year composition have generally found them to be negative, something the researchers described as troubling and problematic. In contrast, the data reported from phase one of this study suggest that students' attitudes and beliefs about first-year composition do not always follow this pattern. Even though some students who participated in this study expressed strongly negative views about not being able to receive exemption from first-year composition through advance placement credit or standardized test scores, a majority of students recognized the value of receiving college-level composition training. This finding suggests that, prior to the beginning of the semester, students' beliefs about the role and function of first-year composition as a fulcrum were aligned with administrators' views of the course.

It is unclear how to account for the stark differences between the results of this study and previous research findings concerning students' attitudes about first-year composition. It is also unclear what factors may have contributed to or helped shape the attitudes of the students who participated in this study. Moreover, given that this chapter reports only on the students' attitudes and expectations about writing, research, and first-year composition prior to the beginning of the semester there is no evidence to suggest whether students' attitudes will follow a trend similar to the one traced by Driscoll who showed a diminished perception of transfer at the conclusion of the semester. These questions will be taken up during phase two of this study consisting of interviews with students, instructors, and administrators in UNC's Writing Program.

One area where the results of this study do align with previous research findings is related to students' definitions of good writing. Driscoll found that the fifteen students interviewed in her study prioritized clarity in their definitions of good writing. Likewise, the survey results reported above show that the students who participated in this study also emphasized clarity in their definitions of good writing. However, Driscoll concluded that the students in her study "lack a rhetorical or disciplinary understanding of writing (even when that was taught in their [first-year composition] course)." I, on the other hand, interpret the students' responses reported in this study to show that students do have an underlying rhetorical awareness about writing. Like Driscoll's students, the students in this study also emphasized elements of style such as clarity and concision in their

definitions of good writing; however, the emergent design approach used to map these results into overarching categories revealed that rhetorical style and rhetorical principles were the most prevalent themes in students' responses about good writing. I argue that these findings indicate that students do have a rhetorical understanding of writing, but that it is nascent and should be leveraged and extended in first-year composition. Further, what I find lacking in students' responses is an awareness of genre and process, two features of writing emphasized both in the learning goals stated for English 105 and in the Outcomes Statement issued by the Council of Writing Program Administrators. Thus, drawing from these findings, future studies using emergent design as a research method might take up the following questions:

- (1) How can students' nascent rhetorical understanding of writing be identified by composition instructors and leveraged to improve writing instruction?
- (2) Does training in genre analysis contribute to a more rhetorical understanding of writing by students in first-year composition? If so, would this help students better identify opportunities to transfer writing training received in first-year composition to new rhetorical situations?
- (3) Preliminary findings reported in this study suggest that students have little appreciation for process, especially drafting and revising based on feedback from a community of knowledgeable peers. Can these findings shed any light on how students approach the peer review process in first-year composition courses? And in recursive fashion, does the emphasis placed on peer review

and revising in first-year composition courses in the UNC Writing Program shape or influence students' perceptions about process, especially peer review and revision?

Dana Driscoll concluded in her pilot study of writing transfer that “[a]s educators, we need to recognize that the attitudes and definitions about writing students bring to our courses may substantially impact their ability to learn.” The data uncovered during phase one of this study prompt interesting questions about how composition teachers might uncover and leverage students' positive attitudes about receiving college-level writing instruction in an effort to “teach for transfer” as Driscoll advocates. However, before proposing specific strategies that might be successful in an institutional context where students' already believe that first-year composition *should* train them to write more effectively for their other courses and in other disciplines, we need additional investigations that explore the connection between students' attitudes about writing-related transfer and their ability to actually apply writing-related skills or knowledge in new situations. Emergent design as presented in this chapter offers one way of exploring these questions.

Angela Rounsaville, Rachel Goldberg, and Anis Bawarshi have pointed out that as a result of studies investigating transfer, “WPAs are more and more often able to describe their programs as responsive to research, theory, and local needs” (97). This study, conducted during the first semester when general education requirements were changed to require first-year composition for all students at UNC, provides insights for composition instructors and writing program administrators

interested in how curricular change is received by students and how their attitudes about first-year composition reveal opportunities for additional pedagogical interventions to improve writing instruction. Three such pedagogical interventions (genre-based writing instruction, metacognition, and undergraduate research) are introduced and explored in the next chapter, where I return to Clayton Christenson's concept of the innovator's dilemma.

CHAPTER FOUR

A RHETORIC FOR USING DISRUPTIVE TECHNOLOGIES

TO TEACH FOR TRANSFER

“Almost any discussion of learning implies a focus on transfer of learning because our goal as teachers is not only to improve students’ performance in the immediate moment of instruction but also to help them develop skills that they can take to future classes and experiences outside of school.”

-- Nelson Graff
in “Teaching Rhetorical Analysis to Promote
Transfer of Learning”

In chapters two and three we saw that the vast majority of transfer studies, especially those focused on the transfer of writing-related skills and knowledge, show evidence of transfer failure rather than success. Elizabeth Wardle stated it plainly when she wrote “the rhetorical situations of FYC courses around the country

do not mirror the multiple, diverse, and complex rhetorical situations found across the university in even the most basic ways. Transfer to such varied situations is not easily accomplished" ("Mutt Genres" 766).³¹ Nonetheless, a growing number of scholars have suggested that, despite the challenges it entails, we can "teach for transfer" across the disciplines in general (Perkins and Salomon) and in first-year composition specifically (Driscoll; Driscoll and Wells). For example, even though Dana Driscoll found that nearly 50% of the students who participated in her study self-reported holding an impression of writing in first-year composition as either disconnected from writing in other courses or expressed uncertainty about how connected it would/could be, she provided a number of recommendations for how composition instructors might address students' attitudes and thereby promote transfer from first-year composition courses (Driscoll "Discussion").

Driscoll is not alone in her belief that composition instructors can do more to promote transfer. As Kerry Dirk has recently noted, "[s]ome scholars are now approaching the composition course with the explicit goal of 'teaching for transfer' (n. pag.). And it is not only individual scholars here and there who are taking an interest in teaching for transfer in first-year composition; there is an interest in teaching for transfer at the programmatic level as well. One example of this is found in Jenn Fishman and Mary Jo Rife's profile of the first-year composition (FYC) program at the University of Tennessee-Knoxville which was redesigned between 2005 and 2007 to explicitly focus on transfer (n. pag.). Another example can be found in

³¹ This argument provides the backing for Wardle (and Wardle and Downs') "Writing about Writing" curriculum and their textbook of the same name.

Irene Clark and Andrea Hernandez's discussion of their pilot study, "Academic Argument and Disciplinary Transfer: Fostering Genre Awareness in First Year Writing Students." Clark and Hernandez described the aim of their project, saying, "Our goal was to construct a curricular direction that would teach students to examine texts for what Perkins and Salomon refer to as transfer cues, so that they would be able to apply what they know to other writing genres they might encounter in other courses" (65). In both of these cases, we see examples of curricular reform as an effort to promote transfer from first-year composition to other rhetorical situations. Furthermore, these examples demonstrate an emerging interest among compositionists and writing program administrators in developing pedagogical approaches designed to "teach for transfer" in first-year composition.

This chapter contributes to emerging efforts by composition and rhetoric scholars to promote transfer from first-year composition to future rhetorical situations. To this end, I extend previous research on transfer studies by theorizing and proposing a series of transfer-oriented pedagogical interventions for use in first-year composition courses: (1) developing genre-based writing assignments, (2) using design plans to prompt metacognition, and (3) providing students with opportunities to conduct undergraduate research.

DEVELOPING GENRE-BASED WRITING ASSIGNMENTS

“Writing assignments are revealing classroom artifacts.”

-- Dan Melzer
in “Writing Assignments Across the
Curriculum: A National Study of College
Writing”

While genre has been a prominent topic of theoretical investigation for rhetoricians³² since at least 1984 when Carolyn Miller’s canonical article “Genre as Social Action” was published in the *Quarterly Journal of Speech*, genre-based writing assignments are still not typical in first-year composition courses (Hood; Dirk). Instead, students are often prompted to compose what Wardle terms “mutt genres” (“Mutt Genres” 774). Wardle defines mutt genres as “genres that do not respond to rhetorical situations requiring communication in order to accomplish a purpose that is meaningful to the author” (777). “The research paper,” an assignment often given in first-year composition courses, can be classified as a mutt genre. Dirk supports this idea, noting that “the types of research papers assigned in freshman composition courses, often described as *the* research paper, usually fail to function as utterances [in a Bakhtinian sense] that respond to any conversation, even one within a composition classroom” (n. pag.). Thus, asking students to write “a research paper” is equivalent to asking them to write in a mutt genre. Teachers who do so are relying on the assumption that practice writing research papers in general will transfer via

³² See especially work by Anis Bawarshi, Amy Devitt, Mary Jo Reiff, Carolyn Miller and Dawn Shepherd, David Russell, John Swales, and Elizabeth Wardle.

the low road when students are asked to write research papers in other courses across the disciplines.

When students are prompted to write in a mutt genre, as they often are in first-year composition courses, they are working within what I call a *context of justification*. In a context of justification, students may be asked to produce a document that takes the form of a genre, but the work of doing so becomes formulaic in the most problematic sense. Asking students to write the mutt genre of a research paper is essentially the same as asking students to produce a non-genre: writing that on the surface may look like a genre but lacks the communicative purpose of any specific actual genre. This claim is supported by Dan Melzer's analysis of over 2,000 writing assignments in which he concluded that "the 'research paper' cannot be classified as a genre, since research writing varies to such a degree from discipline to discipline and even from instructor to instructor" (252).

Genre theory points to the importance of accounting for the complex rhetorical ecologies within which genres operate. As Russell put it, "writing does not exist apart from its uses, for it is a tool for accomplishing object(ives) beyond itself. The tool is continually transformed by its use into myriad and always-changing genres" (57). Genres enable rhetors to respond appropriately in typified ways to recurring rhetorical situations (Devitt *Writing Genres* 13). Assigning the mutt genre of a "research paper" in first-year composition fails to account for these fundamental rhetorical principles.

In a context of justification, students may produce a templated text that resembles the form of the genre, but since their aim is simply to demonstrate compliance with the formal (or formulaic) elements of the genre, their work can (and often does) lack the persuasive aim of producing social action in response to a rhetorical exigence that is particular to a specific rhetorical situation embedded within a specific discourse community operating within a specific activity system. In her study, Wardle observed that “FYC students are told to write an argument in order to write an argument or ‘describe the atmosphere of a football game’ simply for the sake of doing so (i.e. for ‘practice’)” (“Mutt Genres” 777). In other words, students in Wardle’s study were writing in a context of justification: the persuasive aim of producing the genre was demonstration of task completion rather than accomplishing social action.

If we analyze the context of justification as a rhetorical situation, we see that the student-as-author writes for and to the teacher-as-audience for the purpose of demonstration. The text produced may superficially resemble, or as Wardle put it “mimic” a genre, but it lacks the aim of real social action (“Mutt Genres” 767). The rhetorical exigence for this writing is merely to complete (what may appear to students as arbitrary) course requirements, and it may be one reason why students reject the notion that what they learn in first-year composition can be usefully applied to other writing they are asked to do in disciplinary coursework. Teachers assign this kind of writing primarily for the purpose of having students practice general writing skills but not for the purpose of conducting the work of any specific

activity system or discipline. David Russell, who finds this approach to teaching first-year composition highly problematic, has compared it to practicing general ball handling skills without learning to play any particular ball game: “there is no autonomous, generalizable skill called ball using or ball handling that can be learned and then applied to all ball games” (Russell 57).

The underlying assumption on the part of a teacher who assigns multigenres is, of course, that the practice of writing in a genre “for the sake of doing so” will transfer automatically to future rhetorical situations via the low road. Yet, as repeated studies have demonstrated, writing-related knowledge and skills rarely transfer in this way. One reason for this may be due to the fact that low road transfer is dependent upon the learner being able to apply previously learned skills automatically in situations with surface-level similarities.

We know from recent investigations of writing-related transfer, however, that students *do not* perceive surface level similarities between the writing they are asked to do in a first-year composition course and the writing they are asked to do in other courses. We saw a vivid example of this with McCarthy’s student Dave, who perceived himself as a stranger in a series of strange lands. As McCarthy put it, “[i]n each new class, Dave believed that the writing he was doing was totally unlike anything he had ever done before” (234). In other words, Dave, like many other students who take first-year composition, did not see any surface level similarities between the writing he was asked to do in his composition class and the writing he was asked to do in his other courses.

We saw similar attitudes expressed on a broader scale in Bergmann and Zepernick's study where "students perceived writing in all English classes to be very different in *kind* from the writing they did in other courses" (130). Bergmann and Zepernick explained the implications of these students' perceptions for the transfer of writing-related skills and knowledge when they reported that they "repeatedly observed a tendency among students to actively reject the idea that what they learned about writing in high school or in first year composition (FYC) courses could be applied to the writing they were asked to do in other disciplines" (124). This finding is significant for two reasons. First, it reveals that transfer was impeded because the students who participated in the study failed to perceive the surface-level similarities necessary for writing-related skills and knowledge to transfer via the low road. As Bergmann and Zepernick put it, students saw the writing done in first-year composition as "dissociated from all other writing situations" (130). Second, it points to the important role students' perceptions and attitudes play in facilitating (or hindering) transfer.

This conclusion is strongly supported by Driscoll's 2011 study.³³ Driscoll highlighted previous research focused on writing-related transfer, noting that it "seems to indicate that students' attitudes towards writing and beliefs about FYC can be a primary barrier to successful transfer between courses" (n. pag.). Driscoll's results were not only consistent with previous research but also extended it by

³³ Driscoll's 2011 study exploring the relationship between students' perceptions and transfer are extended in Driscoll and Wells' 2012 essay "Beyond Knowledge and Skills: Writing Transfer and the Role of Student Dispositions."

showing that “across the board, students’ perceptions about the transferability of FYC content significantly decline from the beginning to the end of the semester in FYC” (n. pag.).

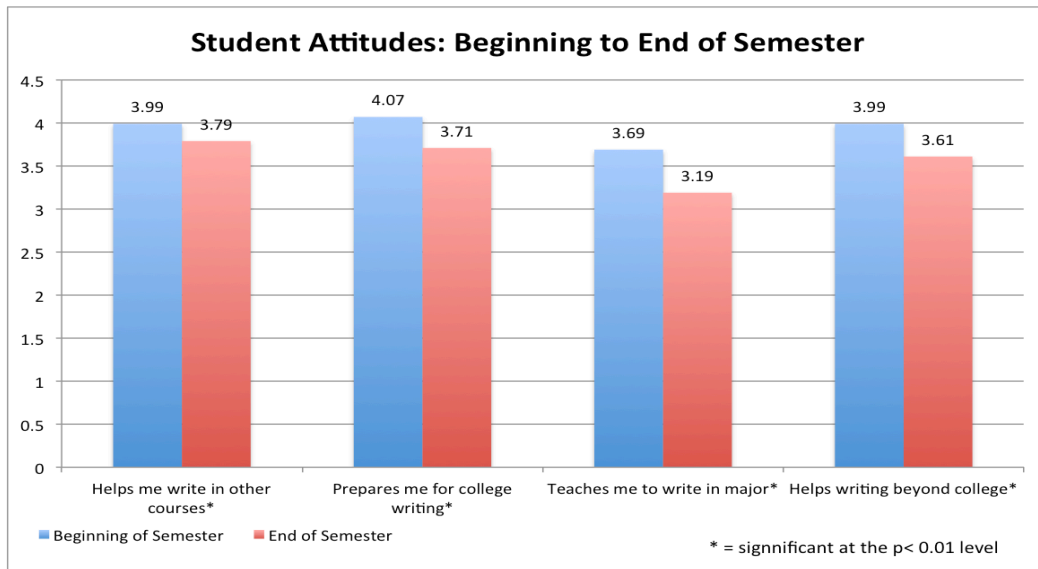


Fig. 4.1. Reprint of Driscoll’s findings from Driscoll, Dana Lynn. "Connected, Disconnected, Or Uncertain: Student Attitudes about Future Writing Conexts and Perceptions of Transfer from First Year Writing to the Disciplines." *Across the Disciplines* 8 (2011): n. pag. Web. 15 June 2012.

My own results from the emergent design study discussed in chapter three also support previous research findings including Driscoll’s. In keeping with Driscoll’s results, my findings show a statistically significant decline in students’ attitudes about transfer from first-year composition over a sixteen-week period.

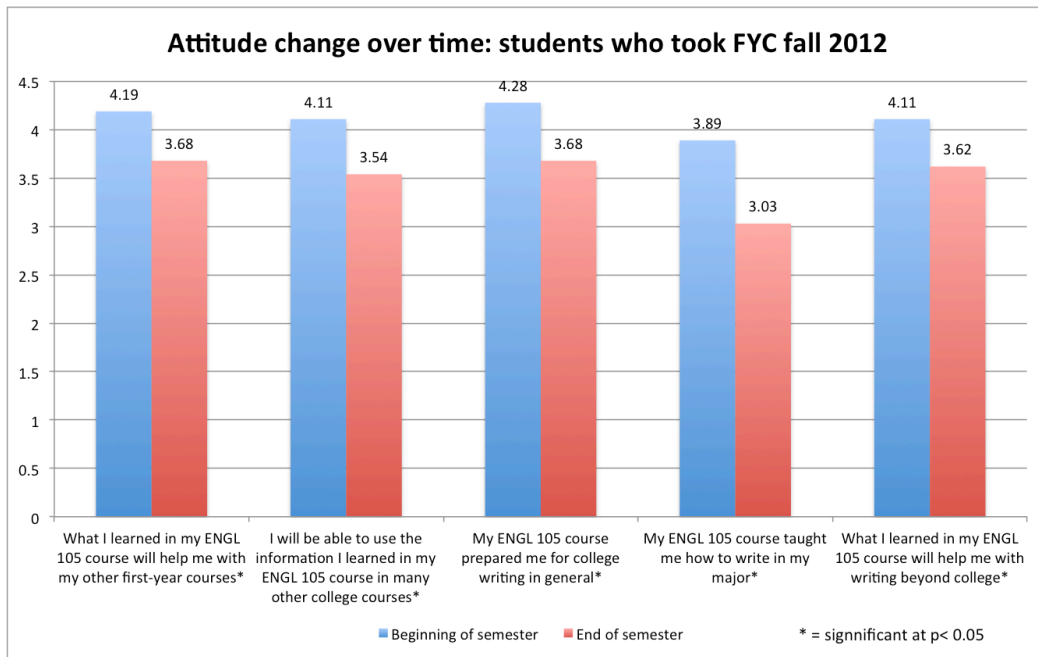


Fig. 4.2. Attitude change over time for students who took first-year composition in fall 2012

Additionally, by replicating the repeated-measures design Driscoll used, I extend previous research on writing-related transfer by showing that the same trend was found among first-year students regardless of whether they took first-year composition or not.

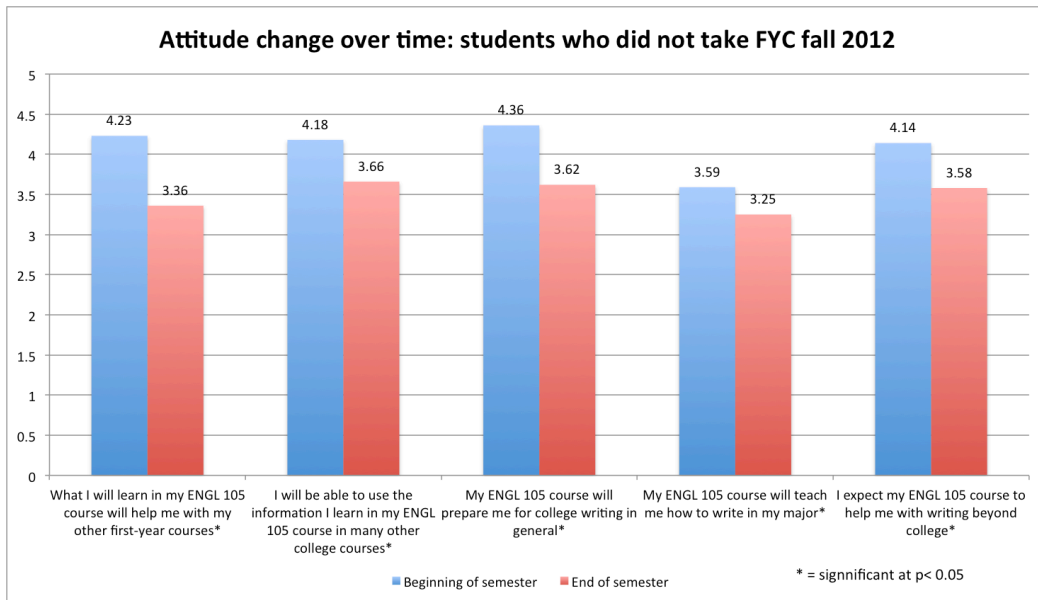


Fig. 4.3. Attitude change over time for students who did not take first-year composition in fall 2012

These results show that the attitudes about the transferability of writing-related skills and knowledge from first-year composition held by students who participated in this study fell during their first semester in college. The statistically significant decline found in both groups (those who took first-year composition and those who did not) indicate that students' attitudes about writing-related transfer may not be as strongly influenced by their composition course as previously thought. These findings suggest that students' attitudes about writing-related transfer from first-year composition may instead be influenced by the more holistic and complex emergent experience of spending sixteen weeks writing in college courses across a range of disciplines.

I agree with Driscoll and Driscoll and Wells' conclusions that students' attitudes about writing and transfer can have a striking effect on their ability to transfer writing-related knowledge and skills acquired in a first-year composition course to other rhetorical situations. The results of Bergmann and Zepernick's study suggest that the "problem" is not that students *can't* transfer the writing related skills and knowledge they acquire in first-year composition; students report that they simply do not see the importance of doing so because they don't see the similarities between different rhetorical situations. I see this as an opportunity for composition instructors to use genre-based writing assignments to help students carefully analyze the various rhetorical situations they encounter as they negotiate participation in a range of disciplines so that they begin to see the connections between skills taught in first-year composition and opportunities to apply those skills elsewhere. I also see this as a way of persuading students that there is a benefit to be gained by seeking out such similarities for the purpose of transferring writing-related skills and knowledge.

Genre-based writing assignments can help students identify and understand similarities between different rhetorical situations in different disciplines³⁴ even when the surface level similarities are not immediately apparent. Genre-based writing assignments, in other words, can help students learn that different discourse communities have different ways of knowing. Different ways of knowing entail not

³⁴ See <http://genre.web.unc.edu/> for an ongoing project that is investigating and examining the genres being assigned in the disciplines at the University of North Carolina at Chapel Hill.

only different topics of investigation for different subject-matter experts but also different ways of producing and using evidence, different ways of using genres in typified responses to recurring rhetorical situations, and different rhetorical strategies for creating knowledge through oral, written, and multimodal discourse.

The 2013-2014 edition of the University of North Carolina at Chapel Hill's *Writing Program Handbook* for composition instructors elaborates on the crucial role genre awareness plays in rhetorical acts:

Each discourse community shares a set of common genres ... Genres are not merely templates for writing, but typified responses to recurring rhetorical situations, stabilized (for now), but flexible conventions for addressing a common problem or task. Genres emerge from the needs of specific discourse communities: genres perform the work necessary for that community. Those genres carry with them the expectations of the discourse community--a case study for a sociology course will differ from one written for an environmental science course, although they may share some common features or purposes. (10)

This theoretically sophisticated notion of genre, grounded in rhetoric, is a cornerstone of the University of North Carolina at Chapel Hill's transfer-oriented curriculum. Every assignment sheet (writing prompt) issued to students in the University of North Carolina at Chapel Hill's Writing Program is required to have a rhetorical chart that aims to elucidate these concepts for students (*Handbook* 15).

The rhetorical chart specifies the elements of the rhetorical triangle (audience, purpose, and genre). The rhetorical chart also defines the writerly role students are asked to assume as rhetors who are prompted to compose either a verbal, written, or multimodal text. And finally, the rhetorical chart contains a brief description (not longer than one or two sentences) of the overarching rhetorical situation.

Table 4.1 Rhetorical chart for a genre-based writing in the sciences assignment

Genre	Purpose	Audience	Role	Rhetorical Situation
Grant proposal	Obtain funding to conduct a summer research project	Members of the Summer Undergraduate Research Fellowship Committee (may include non-experts who are faculty from non-science disciplines)	Scientist (e.g. biology or chemistry major)	Each year, UNC-CH offers approximately 60 fellowships ³⁵ of \$3,000 each to fund undergraduate research projects. You have decided to apply for a fellowship to study a scientific topic of your choosing.

³⁵ See <http://our.unc.edu/students/funding-opportunities/fellowships/surf/> for more information.

Table 4.2 Rhetorical chart for a genre-based writing in the social sciences assignment

Genre	Purpose	Audience	Role	Rhetorical Situation
Field observation report	Describe a place, group, etc.	Other researchers in the same field or members of a research team	Anthropologist	You're doing ethnographic research for a summer research project ... and need to present your observations to your advisor.

Source: Ruskiewicz, John J. *How to Write Anything*. 2nd ed. Boston, Bedford/St. Martin's. 2012. Print. (see page UNC-11)

Table 4.3 Rhetorical chart for a genre-based writing in the humanities assignment

Genre	Purpose	Audience	Role	Rhetorical Situation
Film review	Summarize and evaluate a new film	Casual readers	Film critic	You write a review of a new film for the <i>Daily Tarheel</i> ³⁶

Source: Ruszkiewicz, John J. *How to Write Anything*. 2nd ed. Boston, Bedford/St. Martin's. 2012. Print. (see page UNC-15)

The rhetorical charts depicted in tables 4.1, 4.2, and 4.3 above illustrate how the theoretical concept of genre as a “typified responses to recurring rhetorical situations” is made explicit and concrete for both students and instructors. Using rhetorical charts in writing prompts can be thus understood as a theoretically grounded but practical response to the questions posed by Nelson Graff: “How do we help our students continue to use [writing] skills beyond the assignment for

³⁶ The *Daily Tarheel* is the UNC-CH student newspaper.

which we teach them? In other words, How do we teach writing skills that will transfer?" (376).

Using rhetorical charts to train students in rhetorical analysis, genre awareness, and genre analysis is consistent with several of the most recent theories of how to promote high road transfer of writing-related skills and knowledge. For instance, Bergamann and Zepernick have suggested that instead of teaching students *how* to write (low road transfer), we should instead teach students how to learn how to write (high road transfer) (141-42). Designing genre-based writing assignments can help composition instructors accomplish this goal. However, crafting such assignments can also present a distinct challenge for first-year composition instructors in the University of North Carolina at Chapel Hill's Writing Program, many of whom are graduate students formally trained in literary analysis and criticism, not rhetorical theory. To support composition instructors from a wide range of backgrounds and with diverse areas of scholarly expertise, the *Handbook* advises "Of course, we cannot teach students every genre they will encounter in their undergraduate courses. Therefore, your goal is to help students learn genre awareness and genre analysis skills" (10). One way that instructors teach genre awareness and genre analysis skills is through genre-based writing assignments.

The challenges of transfer from first-year composition to other courses presents writing teachers with a conundrum that has led some to critique the endeavor of even attempting to teach "generalizable" writing skills in first-year composition (Russell). Some composition scholars have gone so far as to call for

required first-year composition courses to be eliminated altogether (Smit; Crowley). Still others have called for compositionists to “radically re-examine the goals of FYC” and have proposed a new curriculum of writing about writing (Wardle “Mutt” 767; Downs and Wardle).

I contribute to this body of scholarship, arguing that students in a first-year composition course who are prompted to write by a genre-based writing assignment with a rhetorical chart are learning and practicing rhetoric (oriented toward high road transfer), not just learning and practicing the composing process (oriented toward low road transfer). However, while instruction that prompts students to write using a genre-based writing assignment such as the ones described above are positioned to facilitate high road transfer, in many ways they still assume low road transfer.

Simply presenting students with a rhetorical chart to help them make sense of an assignment is not sufficient to promote high road transfer. Instead, to promote high road transfer by using genre-based assignments, composition teachers must *teach* the rhetorical chart. This does not (only) mean helping students make sense of the assignment at hand but also helping students make sense of how the rhetorical chart, as an analytic tool, can be used to conduct rhetorical analysis. The UNC *Handbook*, for instance, explains that “[t]he rhetorical chart cues students to the expectations for the assignment, and helps them to internalize the meta-level concepts of genre, audience, purpose, role, and rhetorical situation that they can use to understand any writing situation” (15). The last phrase “that they can use to

understand any writing situation” implies an expectation of transfer. What’s more, it implies that students will re-apply the meta-level concepts presented in their composition assignment sheets when reading and interpreting other assignment sheets. Based on current research, however, we know that doing so is not only a question of being able to reapply those concepts, but also a question of identifying opportunities (or rhetorical situations) where doing so would be helpful (McCarthy; Walvoord and McCarthy) and then seeing the value of doing so (Driscoll; Driscoll and Wells; Bergmann and Zepernick).

Presenting students with a rhetorical chart in a first-year composition prompt is likely to aid them in writing for that assignment but it is unlikely to address the larger questions related to high road transfer without overt and consistent discussion of what the handbook describes as “meta-level concepts.” This assertion is consistent with Graff’s approach to rhetorical analysis which he suggests can help students gain such meta-awareness: “examining not only *what* authors communicate but also for what purposes they communicate those messages, what effects they attempt to evoke in readers, and how they accomplish those purposes and effects” (376). Whereas Graff argues that students should use rhetorical analysis to examine sample documents as a way to improve their own writing, I call for a pedagogy that teaches students how to use rhetorical analysis to understand the writing prompts they encounter as undergraduate writers moving from classroom to classroom and discipline to discipline. Walvoord and McCarthy have shown that professors from across the disciplines already expect students to tacitly understand that they are

supposed to play the role of a “professional-in-training” in most of the disciplinary writing situations they encounter (8). Using a rhetorical chart in tandem with a genre-based writing assignment may begin to address concerns of students like Dave in McCarthy’s study who had difficulty detecting the different roles he was expected to play in his various courses. However, outside of UNC’s Writing Program, rhetorical charts are not a standard feature of writing prompts. Therefore, it is not sufficient to simply include the rhetorical chart as an aid for the assignment at hand. If teachers assume that students will be able to extrapolate when and how to conduct rhetorical analysis simply as a result of being presented with a rhetorical chart in a first-year composition course, they are still assuming low road transfer. In other words, this pedagogical approach assumes that despite a lack of overt instruction the transfer will just happen automatically and take care of itself. And, we know from research that writing-related transfer rarely happens this way.

Instead, when teachers use a rhetorical chart with a genre-based assignment, they must explain to students how to use the chart to understand the rhetorical situation defined in the assignment *and* they must also coach students to anticipate future rhetorical situations where using a rhetorical chart would be helpful. If we train students to make a rhetorical chart for an assignment that does not already have one, we can help them use rhetorical analysis to understand the writerly role(s) they are expected to play in a given writing prompt.

I therefore call for students to be trained in how to create their own rhetorical charts when they encounter writing situations across the disciplines as a new

learning outcome for first-year composition. Starting with genre-based writing assignments that include a rhetorical chart can help students learn the fundamental principles of rhetorical analysis and help them see that rhetorical analysis can make their writing more effective. Subsequently, overt instruction and explicit discussion of transfer--how to create a rhetorical chart for a writing assignment when one is not provided by the instructor--moves into the realm of forward reaching high road transfer. It does so by helping students anticipate future rhetorical situations in which a particular writing-related skill (knowledge of how to create a rhetorical chart) may be helpful. This approach also addresses one of the primary impediments to writing-related transfer: that students do not look for opportunities to apply writing-related skills acquired in first-year composition. Certainly students who are trained in rhetorical analysis and learn how to create their own rhetorical charts may still decide not to look for opportunities to use those skills or fail to see the value in doing so. But, if the instruction has been overt and oriented to high road transfer, there is a better chance that (at least some) students better understand the value of their rhetorical training and as a consequence will be on the lookout for opportunities to apply that training when they encounter different rhetorical situations inside and outside of the classroom.

Wardle has called for compositionists to “radically re-examine” the goals of first-year composition. I agree. However, I do not believe that re-examining and re-envisioning the goals of first-year composition necessarily entails that we should expect our students to play the “professional-in-training” role of our own discipline

in the way that Wardle and Downs' "writing about writing" does by treating and training students as novice composition scholars. Instead, I see the potential for first-year composition to accomplish a broader goal of helping students understand how to assume the role of "professional-in-training" in a variety of discourse communities. To this end, I emphatically agree with Driscoll that we should strive to teach for transfer in first-year composition courses. I see Fishman and Reiff's account of the curricular redesign of writing program at the University of Tennessee-Knoxville as a concrete illustration of how such efforts to promote transfer can improve instruction.

I argue that, in light of our understanding of how to use genres as technologies of persuasion to create social action, we also need to "radically re-examine" the genres we use as teachers in the first-year composition class with an eye toward our own writing "as a tool for accomplishing object(ives) beyond itself" as Russell said (57). In other words, I want to extend Russell's logic by conceptualizing the documents we produce as composition teachers, especially writing prompts and assignment sequences, not only as tools or genres but also as technologies. I want to further suggest that we might approach these documents as disruptive technologies (in the way that Clayton Christensen defines this concept) that can be used in a context of pedagogical innovation to create the kind of social action we desire with regard to transfer. Genre-based writing assignments that present rhetorical charts coupled with overt instruction in rhetorical analysis can help us accomplish this goal.

Research indicates that genre-based writing assignments are not typical in any discipline (Melzer; Head and Eisenberg; Dirk). For example, Melzer reported that:

Previous surveys of the genres assigned in courses across the curriculum (Bridgeman and Carlson; Eblen; Harris and Hult) claim to assign a variety of genres, both academic and professional. Despite this variety, however, these surveys also reveal a dominance of two genres: the term paper and the short-answer exam. (W251)

Interviews with students conducted during phase two of my study support this.

Given what we know about the writing prompts students are likely to encounter in their courses across the disciplines, it is clear that pedagogical interventions oriented to high road transfer have the potential to make a contribution to composition studies by helping undergraduate students write more effectively in a diverse variety of rhetorical situations. What's more, given what we know about the roles professors across the disciplines expect students to play and that we know that professors tend to not make those expectations clear to students (perhaps because they are tacit rather than explicit to the professors themselves), then it follows logically that training students to use rhetorical analysis to better understand the various roles they are being called upon to play likewise has the potential to have a positive effect on undergraduate writing. But we cannot rely on low road transfer if this is to happen; we must instead use overt instruction.

“Overt Instruction” is a pedagogical technique that has been defined by The New London Group, a collective of ten literacy scholars from Great Britain, Australia, and the United States, who met in New London, New Hampshire, in September 1994 (“A Pedagogy of Multiliteracies”). One component of the New London Group’s four-part pedagogical theory of multiliteracies, overt instruction is defined as

all those active interventions on the part of the teacher and other experts that scaffold learning activities, that focus the learner on important features of their experiences and activities within the community of learners, and that allow the learner to gain explicit information at times when it can most usefully organize and guide practice, building on and recruiting what the learner already knows and has accomplished. (n.pag)

The rhetorical chart in a genre-based writing assignment is one disruptive technology composition instructors can use as an “active intervention” designed to scaffold learning activities. Genre-based writing assignments with rhetorical charts function optimally when they are used consistently and iteratively.

Consistency means that the instructor must design a genre-based writing assignment with a rhetorical chart for each unit instead of, for example, building up to using a single genre-based assignment at the end of the semester. In most cases, first-year composition courses are broken up into several units. Typically, in each unit students spend time on “low stakes” writing before completing the unit

assignment. The low stakes writing tasks that build up to the unit project are one way writing teachers scaffold learning activities in a first-year composition course. Using genre-based writing assignments with rhetorical charts is similar, only the progression is not within each unit, it is across multiple units over the course of the entire semester.

Using genre-based assignments with rhetorical charts repeatedly throughout the semester should not be confused with low road transfer. The New London Group was careful to clarify, in their discussion of overt instruction, that it “does not imply direct transmission, drills, and rote memorization, though unfortunately it often has these connotations” (n. pag.). Thus, as I argued earlier, it is wholly insufficient to simply present students with genre-based assignments that contain rhetorical charts in each unit, for this would be too similar to drills and rote memorization. Instead, the primary aim is to help students gain genre awareness by using genre analysis skills. The University of North Carolina, Chapel Hill’s Writing Program *Handbook* defines these skills as the ability to

- Determine if a form of writing is a genre, in the first place
- Locate examples of that genre
- Study those examples to determine the common moves, organization, style, and formats
- Identify whether the genre provides room for alternative arrangements, features, formats, styles, etc.
- Consider how that genre works within a specific discourse community

- And finally, plan and write a document that fits the expectations of that genre. (10-11)

In each unit, students should be prompted to use the rhetorical chart as a stimulus to conduct genre analysis as part and parcel of rhetorical analysis. However, simply repeating the same steps over and over again is not enough; the repetition must also be iterative.

Each iteration (each unit) should present students with a new and more difficult intellectual challenge. To this end, each unit should present students with a different genre, purpose, and audience and in each instance students should be called upon to adopt and play a different writerly role. During the first unit, gaining genre awareness through genre analysis and gaining rhetorical awareness through rhetorical analysis is the primary intellectual challenge students confront. However, even as students are learning these fundamental concepts for the first time, teachers should coach students to anticipate future rhetorical situations in which they might be able to apply those skills. One concrete way to do this is to coach students to anticipate subsequent unit projects in their own composition course. This approach is based, in part, on the concept of “Situated Practice,” another component of the New London Group’s multiliteracies pedagogy.

Situated practice is “constituted by immersion in meaningful practices within a community of learners who are capable of playing multiple and different roles based on their backgrounds and experiences” (n. pag.). The role of composition teacher, in each iteration, is to “guide learners, serving as mentors and designers of

[the students'] learning processes" (n. pag.). But this role entails different responsibilities at different times. When instructors teach a new skill such as genre analysis and at the same time coach students to anticipate the next unit for their shared first-year composition course as a future opportunity in which they will be able to re-apply and expand those skills, the teacher is using forward-reaching high road teaching practices. As a coach, mentor, and designer of learning experiences, the teacher must carefully craft a sequence of unit projects that call for students to adopt and play different writerly roles each time.

As soon as the first genre-based writing assignment is completed, students should be prompted to reflect, in writing, on how they used the rhetorical chart to help them conduct genre analysis and rhetorical analysis to complete the assignment more successfully than they would have been able to do otherwise. And the students should also be prompted to reflect, in writing, on at least one other future rhetorical situation in which they might be able to reapply those skills. Some students will likely write about the upcoming unit in their first-year composition course, especially if the teacher has already coached students to anticipate this. Some students, though, may even begin to consider other rhetorical situations outside of their first-year composition course. Either outcome is acceptable because the pedagogical goal is "the use of metalanguages, languages of reflective generalization that describe the form, content, and function of the discourses of practice" ("Multiliteracies" n. pag.).

These metalanguages will be drawn upon in each subsequent iteration when the teacher uses backward-reaching high road teaching practices. Presuming that the teacher has carefully crafted a sequence of unit projects that call for students to adopt and play different writerly roles each time, these metalanguages can be immediately and usefully extended as soon as students are introduced to the second unit project when they attempt to understand their new writerly role. Since students have already been introduced to the fundamental concept of using a rhetorical chart as a guide for conducting genre analysis and rhetorical analysis, the instruction should not focus on merely repeating the process so that the students have practice writing for different audiences and purposes (low road transfer). Instead, using overt instruction, students should be coached to identify and compare not only the differences but also any similarities they can find between the rhetorical situation presented in the first genre-based writing assignment and later genre-based writing assignments. Guiding students through this process is an embodiment of what the New London Group describes as

the sorts of collaborative efforts between teacher and student wherein the student is both allowed to accomplish a task more complex than they can accomplish on their own, and where they come to conscious awareness of the teacher's representation and interpretation of that task and its relations to other aspects of what its being learned. (n. pag.)

The first time students are exposed to a genre-based writing assignment, a majority of the instruction should be focused on helping students learn the fundamentals of genre analysis and rhetorical analysis. But as soon as students move beyond the first unit, the role of the instructor involves making backward-reaching connections to previously learned skills and concepts that need to be re-applied and expanded and also coaching students to be alert to the possibilities of forward-reaching opportunities that will enable them to progress further in their intentional use of rhetoric as an undergraduate writer. Just as our goal as composition instructors is not to teach students all the possible genres and conventions for all the disciplines and activity systems, our responsibility is not to anticipate every possible future situation students may encounter. Rather, our aim should be to help students learn how to use rhetorical analysis to identify, analyze, and compose (verbally, alphabetically, or multimodally) when they encounter new rhetorical situations that may, at first, appear to be “totally different from each other and totally different from anything [they have] ever done before” as McCarthy described Dave’s experience (243). And our aim should be to foster a meta-level awareness in our students of their own capabilities for conducting genre analysis and rhetorical analysis so that they not only become more adept at identifying opportunities to transfer knowledge and skills gained in first-year composition but also so that they recognize the value in doing so.

Helping students gain a meta-level awareness of their own composing skills and knowledge does not, in any way, discount the need for students to acquire

expertise over time with many iterative attempts to communicate within any discourse community they attempt to join. It is simply a way of making more explicit knowledge that typically remains tacit so that students see the value of the rhetorical training they receive and are more able to identify how that training can be used in future situations, even when the surface level similarities do not facilitate low road transfer. This is the kind of mindful abstraction Perkins and Salomon describe when discussing high road transfer but contextualized to the activity system of FYC.

USING DESIGN PLANS TO PROMPT METACOGNITION

“Freshman writing, if taught with an eye toward transfer of learning and with an explicit acknowledgement of the context of freshman writing itself as a social practice, can set students on a course of life-long learning so that they know how to learn to become better and better writers in a variety of social contexts.”

-- Anne Beaufort
in *College Writing and Beyond: A New
Framework for University Writing Instruction*

Design plans are the second disruptive technology I recommend to facilitate teaching for transfer. In the previous section, I argued that the benefits of genre-based writing instruction can be enhanced by overt instruction focused on genre analysis and rhetorical analysis. In this section I show how design plans can extend and scaffold those high road transfer oriented teaching practices.

Inspired by the idea of design plans presented in Anne Frances Wysocki and David Lynch’s composition textbook *Compose, Design, Advocate*, Jane Danielewicz, Jennifer Ware, and I have “adapted the design plan and use it as a pedagogical intervention to help students achieve prolonged metacognition, or systematic thinking about composing decisions” (Hall, Danielewicz, and Ware 147). Whereas genre-based writing assignments with rhetorical charts are disruptive technologies that can be used to help students gain genre awareness and rhetorical awareness,

design plans are disruptive technologies that can be used as students pivot from analysis to composing.

Rather than seeing the pivot from analysis to composing as a one-time turning away from, overt instruction can guide students through using design plans to help them learn that such pivoting is more of a reciprocal flow back and forth that can and should transpire during any and all phases of the composing process. Our adapted version of the design plan is intended to be used not only during the initial phases of the composing process, when students are discovering a topic and pre-writing, but also while they are planning, drafting, reviewing, and revising their compositions.

Design plans prompt students to conduct low stakes writing about the rhetorical situation they are facing rather than the more typical low stakes approach often called pre-writing. First, we ask students to write an audience declaration. The aim is not to simply test whether the students have read the rhetorical chart presented in the genre-based writing assignment sheet but is instead to provoke students to deepen their thinking about the audience by writing a provisional description of what they already know and understand about the needs, interests, and expectations of that audience.

The design plan asks students to write *about* the audience they intend to address in their composition, but in the design plan they are not writing *to* that audience. Differentiating between writing *about* and writing *to* the audience defined in a genre-based writing assignment with a rhetorical chart should provide students

with a concrete way to understand that they are shifting back and forth between analysis and composing continually throughout all stages of the writing process.

After students write their first provisional audience declaration, they draft a statement of purpose. As was the case with the audience declaration, asking students to write a statement of purpose is not intended to be a way of testing students to make sure that they have read the rhetorical chart presented in the writing prompt. Instead, this section of the design plan offers students a concrete opportunity to extend their thinking, in writing, about the purpose defined by the instructor. Ideally, over time, students will begin to personalize their statement of purpose based on their own aims or intentions as a rhetor playing a designated writerly role. When instructors prompt students to write their first statement of purpose, instructors should clarify for students that the statement of purpose is not the same thing as a thesis statement or an argumentative claim; the statement of purpose is a meta-level description, in the student's own words, describing what s/he intends to accomplish in the genre-based writing assignment. Here, again, when students work on this section of a design plan they are writing *about* their composition, not actually drafting it.

Design plans are intended to be flexible resources to help teachers guide their students as they deepen their understanding of how to conduct rhetorical analysis and how to use rhetorical concepts to shape their writing. For that reason, instructors can tailor their use of design plans to best suit their own teaching style and the students' needs. For instance, in some courses the teacher might ask

students to work on all six sections (audience declaration, statement of purpose, context, genre, media/materials, arrangement strategy) of the design plan in a single day. Other times, a teacher might integrate one section of a design plan into the day's other activities.

In either case, design plans function optimally when students are directed to return to them and update them iteratively. We recommend that teachers ask students to record the date each time a section of the design plan is updated. Annotating the iterative additions and revisions to the design plan is intended to help students track the evolution of and changes in their thinking over time. We also recommend that teachers return to overt instruction with the design plans by mentoring students in how the document can be used as a guide to facilitate the reciprocal flow between analysis and composing. This entails not only discussing each section of the design plan in the classroom as a large group but also designing opportunities for students to collaborate with one another and workshop their design plans in class. Additionally, one-on-one conferences provide yet another opportunity for students to explore strategies for using the design plan to inform their composing choices, helping students become more aware of their thinking processes and more intent in their decision-making. Discussing the design plans in these various ways nurtures the students' development of metalanguages and contributes to the pedagogical goal of "conscious awareness and control over what is being learned – over the intra-systematic relations of the domains being practiced" (The New London Group n. pag.).

UNDERGRADUATE RESEARCH AS A PATHWAY TO THE HIGH ROAD

“[W]hen first-year writing involves genuine inquiry and research, and when it is supported by substantial rhetorical instruction, college writing has the potential to become a vastly different landscape.”

-- Jenn Fishman and Mary Jo Rife
in “Taking the High Road: Teaching for
Transfer in an FYC Program”

In their theory of multiliteracies, The New London Group argues, “[t]here is ample evidence that people do not learn anything well unless they are both motivated to learn and believe that they will be able to use and function with what they are learning in some way that is in their interest” (n. pag.). We have seen that the students who participated in the study discussed in chapter three began the fall 2012 semester with a belief that they would be able to use their first-year composition experience in ways that benefit their academic and professional interests. But over time, they became less confident that what they were learning in their composition course would be helpful for their writing assignments in other courses. Overt instruction of genre-based writing assignments and design plans are meant to help students to see how they will be able to use their rhetorical training to their benefit and persuade them of the value inherent in doing so.

The pedagogical goal for helping students gain this awareness is to promote forward-reaching high road transfer. By definition then, both genre-based writing assignments and design plans are speculative due to their future-oriented nature.

Theoretically, students trained with genre-based writing assignments and design plans will be well-prepared to transfer their rhetorical knowledge to new rhetorical situations, but whether or not they actually do so remains unknown at this point.

So what can composition instructors do to foster backward-reaching high road transfer? I propose undergraduate research, another disruptive technology, as a third pedagogical intervention designed to promote backward and forward-reaching high road transfer.

In 2002, English professor Ronald Dotterer pronounced undergraduate research as “the pedagogy for the twenty-first century” (81). Although we know that students are often tasked with writing “research papers” (Dotterer 82; Melzer W251), what Dotterer refers to as undergraduate research is something categorically different. In both cases, the student is an undergraduate who collects information, analyzes and synthesizes evidence, and documents conclusions in written, spoken, or multimodal discourse. If we explore the question of how these practices are similar to and different from one another by applying theories of the rhetorical situation in a rhetorical chart (such as the ones proposed earlier), the elements for a student writing a research paper would be mapped as follows:

Table 4.4 Rhetorical chart for a student writing a research paper

Genre	Purpose	Audience	Role	Rhetorical Situation
Research paper	Fulfill teacher’s expectations; receive desired grade	Teacher	Student	Assignment in a classroom setting

By contrast, the rhetorical situation of a student conducting undergraduate research can be mapped as follows:

Table 4.5 Rhetorical chart for a student conducting undergraduate research

Genre	Purpose	Audience	Role	Rhetorical Situation
Conference presentation	To share the results, findings, and/or conclusions of an inquiry-driven project	Peers and mentors	Novice researcher and professional-in-training in a particular academic discipline or professional field	Public gathering at an undergraduate symposium or research conference

Already we can see clear distinctions between the two situations, most notably in the rhetor's purpose for communicating. The first situation is governed by what I have already defined as a context of justification; the second takes place within what I call a context of invention. This assertion is supported by Dotterer's description of a four-step learning process involved in undergraduate research: "(1) identifying and acquiring a disciplinary or interdisciplinary methodology, (2) setting out a concrete investigative problem, (3) carrying out an actual project, and (4) sharing a new scholar's discoveries with his or her peers" (82).

Dotterer's depiction of undergraduate research is in keeping with that of noted education scholar George Kuh, who identifies undergraduate research as one of ten "high-impact" teaching practices, saying that "the goal [of undergraduate

research] is to involve students with actively contested questions, empirical observations, cutting-edge technologies, and the sense of excitement that comes from working to answer important questions” (10). Clearly, even though professors often ask students to conduct “research” or to submit “research papers,” there is a distinction between the two scenarios presented above.

English scholar Joyce Kinhead elaborates on this distinction, noting that “[m]any college and university classes require students to write research papers--too often not requiring original thought and original output,” whereas “*undergraduate research* is defined broadly to include scientific inquiry, creative activity, and scholarship” (emphasis in original, “Learning through Inquiry” 6). Kinhead’s observation affirms my analysis that writing a research paper happens in a context of justification while conducting *undergraduate research*³⁷ takes place within a context of invention.

A truly disruptive innovation in higher education would shift the balance in terms of the kind of work undergraduates conduct away from a context of justification and toward a context of invention. Genre-based writing assignments and design plans may get us closer to this potential, but *undergraduate research* is

³⁷ From this point forward, I italicize undergraduate research following Joyce Kinhead’s treatment of the term to signal the difference between an undergraduate student doing research and the compendium of activities involved in *undergraduate research*. *Undergraduate research* when italicized signifies the activities involved when students, usually working with a mentor, use established research methods to develop and carry out an inquiry-driven project, then attempt to share the results, conclusions, or findings of their work with peers and mentors at a conference, symposium, or in a journal or other publication venue.

unique in its ability to transform the roles students are authorized to play in the knowledge-making activities of the academy.

The ways in which *undergraduate research* complements and extends genre-based writing assignments and design plans as pedagogical interventions for fostering high road writing-related transfer is so profound that I call for its widespread adoption by first-year composition instructors. To put it slightly differently, I call for first-year composition to become a context of invention, a place where active learning practices are commonplace and systematic by virtue of inviting students to participate in undergraduate research. When Perkins and Salomon explain that, “[i]n backward reaching high road transfer, one finds oneself in a problem situation, abstracts key characteristics from the situation and reaches backward into one’s experiences for matches,” they illuminate how genre-based writing assignments and design plans can help prepare students for undergraduate research (“Teaching” 26). Students who are invited to conduct *undergraduate research* in a first-year composition course confront a new rhetorical situation when they face the challenge of reporting the results of their research or “sharing a new scholar’s discoveries with her or his peers,” as Dotterer puts it. This act of sharing becomes the “problem situation” for an undergraduate researcher in first-year composition. Those students who have been trained to use rhetorical analysis to examine their own role in relation to their audience, purpose, and genre as part of a larger rhetorical situation through genre-based writing assignments and design plans have

concrete experiences to return to when they search for matches in their past as part of the abstraction process Perkins and Salomon describe.

CONCLUSION

Although conducting primary and secondary research is a mainstay of first-year composition courses, the work students produce is not usually seen, by faculty members or students themselves, as *undergraduate research*. Rhetorician Reed Wilson elucidates this:

when they arrive on our doorsteps, our students have a limited understanding of what “research” is, and practically no conception of what it is or can be in the humanities. And entry-level or introductory courses don’t help much either. In composition or “Introduction to Literature” courses, “research” too often means “finding out what someone else has already said,” either to include it to prove you know it, or somehow to find “your own words” to say it again. (77)

While Wilson does not use these words, it is evident that the entry-level coursework he describes is a context of justification. Typically, *undergraduate research* in a context of invention happens outside of a formal class when a student (or team of students) works collaboratively with a faculty mentor. As Kinhead puts it, “[a]nother hallmark of undergraduate research is the role of the mentor, a faculty member who guides the novice researcher and initiates the student into the methods of the discipline” (“Learning Through Inquiry” 6). In scientific disciplines, this often happens in the lab. Wilson explains, “in the sciences, undergraduate research most often begins with apprentice work on faculty research projects ... [where] undergraduates provide basic (but necessary) research assistance in faculty labs in return for basic

instruction in research skills and methodologies” (75). But, as Wilson’s comments illuminate, this is not the perception we have (or really anyone has) of the research students conduct in first-year composition.

Out of all the classes students take during their first year, however, composition is the one best-suited for transformation into a context of invention through *undergraduate research*. For instance, when describing another of the ten “high-impact” teaching practices he recommends, Kuh notes that “[t]he highest-quality first-year experiences place a strong emphasis on critical inquiry, frequent writing, information literacy, collaborative learning, and other skills that develop students’ intellectual and practical competencies (9). The adjectives Kuh uses in this description are an apt description of the characteristics of effective first-year composition courses. Kuh follows this description immediately, saying, “[f]irst-year seminars can also involve students with cutting-edge questions in scholarship and with faculty members’ own research” (9). Although Kuh does not call this involvement *undergraduate research* per se, we can see that the description closely mirrors his own definition of undergraduate research (10). Thus while Kuh does not specifically discuss first-year composition courses as examples of the first-year seminars he says constitute a “high-impact” practice, I assert that they are precisely that. Likewise, while Kuh does not explicitly refer to *undergraduate research* as transpiring within this context, I argue that it can and should.

This appeal is not without complications, granted. For instance, Wilson points out

Many faculty believe that undergraduates need not more opportunities to pursue research, but more conscientious gatekeeping of existing opportunities—only the most prepared, fiercest, and most dedicated should be allowed to pursue independent study. (75-76)

Adding that

By this reasoning, administrative initiatives to promote undergraduate research not only increase faculty workload and misdirect undergraduates [who may not be interested in pursuing advanced coursework in the professor's own field], but also seem to be little more than further "corporatizing" efforts to offer more satisfying "products" to the "clients." (76)

Based on Wilson's careful assessment of possible resistance to undergraduate research from teachers, I agree that it would be wrong to mandate inclusion of undergraduate research in first-year composition programs as a top-down administrative edict. I do, however, believe that some composition teachers, especially those who are interested in fostering high road transfer will recognize the strategic opportunities it can offer to complement our forward-reaching strategies with at least one occasion for students to use backward-reaching transfer to apply their rhetorical training to communicate with an audience outside of their own first-year composition course. After all, as Kinkead reminds us:

The heritage of undergraduate research derives significantly from faculty enterprise and effort rather than from institutional movement.

Faculty members, intellectually stimulated by their own research and intrinsically interested in their own students' development, have been largely responsible for driving undergraduate research. (9)

Composition teachers who do elect to integrate undergraduate research into their first-year composition courses voluntarily are still likely to confront a number of other challenges. Spanish professor V. Daniel Rogers addresses some of these challenges, explaining that “[m]odels for including undergraduates in research in the humanities are few, funding at many institutions is scarce, and the value of such research in promotion and tenure decisions is often ill defined.” Rogers adds, “[t]hose real problems aside, the greatest obstacle to change in the humanities may well be the cultural divide that separates us from the sciences” (132). Addressing these very real complications that Rogers suggests can lead humanities scholars to experience “culture shock” (132) when and if they embrace undergraduate research, Wilson counters, “The ways in which mentoring and undergraduate research happen in the sciences and the ways they happen in the humanities will never be the same” (76). Instead of streamlining faculty members' own research projects, Wilson concedes that undergraduate research in the humanities “is always a time-consuming teaching activity often unrelated to specific faculty research projects” (76). To address this concern Wilson calls for administrators to recognize and value the labor-intensive nature of undergraduate research, asserting that, “[w]ithout such recognition, humanities faculty ... will continue to rationalize shutting the door on

efforts to ‘reinvent’ undergraduate education grounded in undergraduate research” (76).

There is no doubt that undergraduate research in the humanities is labor-intensive. Yet, there are many reasons to believe that we should pursue it nonetheless. The benefits students accrue from undergraduate research experiences are becoming well-documented (Rueckert; Astin; Bauer and Bennett; Boenninger and Hakim; Chopin; Hu et al.; Hunter, Laursen, and Seymour; Ishiyama; Ishiyama and Breuning; Mateja and Otto; Spilich; Thiry and Laursen). One concrete example comes from John Ishiyama and Marijke Breuning. They show that political science majors from Truman State University who participated in collaborative student-faculty research projects presented at professional conferences tended to have higher scores on the Major Field Aptitude Test (MFAT) for Political Science (170). Another example is found at the University of South Carolina, where marine science students who participated in a pilot undergraduate research program called Project Interface “mastered complex scientific concepts and important professional skills such as critical and independent thinking, teamwork, and problem-solving” (Bushek, Porter, and Kineke 69). While these examples come from non-humanities fields, we can see that students accrue a range of benefits in a variety of fields when they have opportunities to participate in undergraduate research.

Scholarship on student learning supports this conclusion. For instance, Kuh found that *undergraduate research* is connected to three out of four widely accepted goals for undergraduate education as demonstrated in table 4.4.

Table 4.6 Connecting essential learning outcomes with high-impact practices

<p>Fostering Broad Knowledge of Human Cultures and the Natural World</p> <ul style="list-style-type: none"> • Common intellectual experiences (exploring “big questions” in history, cultures, science, and society) • Undergraduate research • Learning communities (multiple classes linked to a “big question”) • Diversity, civic, and global learning • Capstone courses
<p>Strengthening Intellectual and Practical Skills</p> <ul style="list-style-type: none"> • First-year seminars • Writing-intensive courses (across the curriculum) • Skill-intensive courses (quantitative reasoning, oral communication, and information literacy across the curriculum) • Collaborative assignments and projects • Undergraduate research • Internships
<p>Deepening Personal and Social Responsibility</p> <ul style="list-style-type: none"> • Common intellectual experiences (exploring “big questions in history, cultures, science, and society) • Diversity, civic, and global learning • Ethics-intensive courses • Collaborative assignments and projects • Service and community-based learning
<p>Practicing Integrative and Applied Learning</p> <ul style="list-style-type: none"> • Learning communities (multiple classes linked to a “big question”) • Undergraduate research • Service and community-based learning • Internships • Capstone projects and culminating experiences

Source: Schneider, Carol Geary. “Introduction.” *High-Impact Educational Practices: Who Has Access to Them and Why They Matter for All Students*.

Washington D.C.: Association of American Colleges and Universities, 2008.

Similarly, Carolyn Ash Merkel, who has been extensively involved in undergraduate research at the California Institute of Technology, enumerates several positive pedagogical qualities related to *undergraduate research*:

- It is first and foremost an educational opportunity for the student (40).
- For most students, hands-on experiences provide the best learning tools. The essence of undergraduate research is the supportive, encouraging, intellectual partnership between students and other researchers and through which students apply knowledge gained in the classroom to new questions and problems (41).
- For most students, engaging in undergraduate research is an introduction to research. However, many students make significant contributions to the mentor's ongoing work, often becoming coauthors of articles in the refereed literature (41).
- The progress from one level of education to the next becomes more seamless and efficient through undergraduate research (41).

Given the many teaching and learning benefits related to undergraduate research, its growing popularity should be no surprise. Merkel, for example, points out that “[m]any universities have developed a culture of undergraduate research” (42). This view aligns with Dotterer’s observation that “[i]nquiry-based learning, scholarship, and creative accomplishments [which he uses synonymously with *undergraduate research*] have become commonplace at a majority of American doctoral and research institutions, comprehensive universities, and liberal arts

colleges” (81). Wendy Katkin, director of the Reinvention Center at Stony Brook,³⁸ adds that “[d]epartmental and campus wide events that showcase student projects are becoming increasingly common” and that many schools also “have Web-based or print journals (or both) in which students report on their work” (24-25).

Yet, simply because undergraduate research now enjoys widespread support from faculty, administrators, students, parents, and alumni, it does not mean that most students participate in the set of learning practices--asking original research questions, conducting research with established methods that are discipline appropriate, writing and presenting their results as scholarship--that are known as *undergraduate research*. In fact, the reality is that undergraduate research impacts far too few students despite its growth and popularity. This assertion is confirmed by Kuh’s finding that “on almost all campuses, utilization of active learning practices is unsystematic, to the detriment of student learning” (9). Katin agrees:

serious challenges persist that are, or should be, of great concern to faculty and administrators. These challenges suggest that research and creative endeavors are still not central to the undergraduate mission at most institutions. A major challenge is how to involve more students. Despite the considerable progress that has been made in recent years, the number and percentage of undergraduates having a research experience remain relatively small and are often limited to the strongest students. (25-26)

³⁸ The Reinvention Center at Stony Brook is “a national center established in 2000 to provide leadership in promoting undergraduate education at research universities.”

Merkel is of like mind with Katin and Kuh, adding that “in some universities, it is still the top students who get to do research. The quiet students, or those who have not achieved high grade-point-averages, are not invited to participate in research” (“Undergraduate Research at the Research Universities” 39).

Participation in *undergraduate research* is unevenly distributed in other ways as well. Perhaps as a legacy of its scientific origins, participation in undergraduate research is still heavily dominated by students from STEM fields. Lila Guterman, writing for the *Chronicle of Higher Education*, comments on the popularity of undergraduate research among science majors, reporting that

[o]ver all, some 40 percent of students majoring in the life sciences and physical sciences do research with a faculty member, according to two surveys: the National Survey of Student Engagement, which canvassed more than 65,000 students at 209 colleges and universities and a study performed by the Reinvention Center, at the University of Miami, which surveyed administrators at 75 research universities to get estimates. (n. pag.)

Although Guterman does not cite specific participation rates for students in the humanities, historical indicators suggest that it is unlikely that an equivalent percent of humanities undergraduates conduct *undergraduate research*. For instance David DeVries notes that during his first six months as the director of Cornell’s Undergraduate Research Program, he “read through the research proposals of, approximately, 400 Cornell Arts and Sciences undergraduates, the vast majority of whom were students researching subjects in the natural and social sciences, particularly psychology” (153).

DeVries comments directly on the slight participation from humanities disciplines, saying that “[t]here were a bare handful from the english [sic] department; a smattering in music; fewer than five in latino [sic] studies; and another handful in government” (153). Mithcell Malachowski, a chemist by training and past president of the Council on Undergraduate Research (CUR), speculates that the historical record of disproportionate participation in *undergraduate research* may be linked to the more collaborative work practices common in scientific fields. Malachowski, who has been a vocal supporter of increased participation in *undergraduate research* by students from non-science disciplines explains, for instance, “[i]n recent years, scientists have worked to create a research environment and atmosphere which has not yet evolved or taken hold to the same extent in most non-science areas” (“Promoting” 126). However, we lack national statistics on the actual number of students who participate in *undergraduate research* with associated demographic information such as major, year of participation, and type of participation, without which it is difficult to assess or precisely describe the disparity between different disciplines.

There is some evidence, however, to suggest that participation in undergraduate research is becoming gradually more balanced across the disciplines. For instance, Dotterer concedes that “[h]umanities departments have been the slowest to participate, despite the pioneering support of the National Endowment for the Humanities (NEH) for undergraduate research in its innovative Younger Scholars Program”³⁹ but also notes that “the sciences and social sciences each year cede a bit more of their dominant

³⁹ Dotterer explains that funding for the NEH’s Younger Scholar Program was cut in 1994 and adds that at the time of his writing (in 2002) funding had not yet been restored.

ground in undergraduate research to other areas, including the fine arts and humanities, so that the most recent [National Conferences on Undergraduate Research (NCUR)] have had only a slim majority of presentations in the sciences” (83). Yet, even as we see participation in *undergraduate research* becoming gradually more balanced across the disciplines, it is unevenly distributed in another important way.

Undergraduate research, by and large, is not typically conducted by first-year students (Rueckert; Ward and Dixon). Recent scholarship focused on *undergraduate research* demonstrates that efforts to include first-year students in *undergraduate research* are already underway at a number of universities (Grabowski, Heely, and Brindley; Felix and Zovinka; Hoke and Gentile; Ward and Dixon). A majority of these efforts, however, focus on students who intend to major in STEM fields (or are efforts to persuade student *to major* in STEM fields).

I contribute to this emerging area of scholarly investigation by suggesting that students can also be introduced to *undergraduate research* by way of their first-year composition courses. I offer three possible paths by which teachers might integrate *undergraduate research* into their first-year composition course as the final unit of the semester. Each pathway presupposes that students have already completed at least one genre-based writing assignment using a rhetorical chart and have been introduced to design plans. Each pathway also invites students to move one step beyond the limits of a genre-based writing assignment in which they imagine themselves writing for an audience outside of the classroom by submitting to an *undergraduate research* venue. Of course not all students will be accepted for publication, but in each of the following examples, students are asked to compose something that will, at the very least, be read

by an editor or team of readers outside of their own classroom. This characteristic aligns with a longstanding tradition in composition that seeks to decenter the hierarchical nature of the teacher-as-authority figure and aligns with our well-established student-centered practices. Not only do these pathways, then, require students to assume a new writerly role but they also prompt teachers to fully embrace the role of coach and mentor, since they are no longer the primary audience for the students' writing.

Young Scholars in Writing

The first possibility would be to ask students to assume the role of a novice researcher in our own field by responding to a call for papers from the undergraduate rhetoric journal *Young Scholars in Writing*. Published annually each fall since 2003, *Young Scholars in Writing* accepts publications throughout the spring semester. The journal offers a special section, entitled "Spotlight on First Year Writing," which, according to the web site, only accepts submissions "written in a lower-division composition course or by a first-year student" ("Spotlight" n. pag.). This option might be particularly effective if the teacher has already used overt instruction to discuss the various writerly roles students are assumed to play by professors in other disciplines. Assignments of this nature might include the following rhetorical chart (or a variation thereof):

Table 4.7 Rhetorical chart for *Young Scholars in Writing* assignment

Genre	Purpose	Audience	Role	Rhetorical Situation
Journal article	To be accepted for publication in an undergraduate rhetoric journal	Editors for (and potentially readers of) the undergraduate rhetoric journal <i>Young Scholars in Writing</i>	Novice rhetorician	Using research methods appropriate for rhetoric scholars (such as rhetorical, textual, or discourse analysis) you hope to share your research with other undergraduate students who are also interested in rhetoric

Teachers pursuing this pathway might consult Wardle and Downs' textbook *Writing About Writing* as a resource.

Journal of Undergraduate Media Projects (JUMP)

A second possibility is similar to the first in that it invites students to assume the role of a novice researcher in our own field by responding to a call for papers from the undergraduate digital rhetoric journal *JUMP*. This option is better suited for teachers and students who are interested in exploring the communicative and meaning making potentials afforded by multimodal digital publishing in online environments. *JUMP's* digital format is not the journal's only distinguishing characteristic: the projects published in *JUMP* "include assignment descriptions from the courses in which they originated, reflections by the instructors involved, and design rationales or product/process reflections by the author(s)/composer(s) themselves" ("About" n.

pag.). Given that the assignment descriptions are typically included alongside *JUMP*'s published projects, it might make more sense for instructors pursuing this pathway to designate an overarching topic⁴⁰ for all the students in the class to explore. While this narrows the topical focus of the students' project, it allows more instructional time to be devoted to exploring how to convey creative/critical interpretations through multiple modes and how to use digital composing technologies to share knowledge and make meaning. Assignments of this nature might include the following rhetorical chart (or a variation thereof):

Table 4.8 Rhetorical chart for *JUMP* assignment

Genre	Purpose	Audience	Role	Rhetorical Situation
Multimodal composition	To explore the meaning making potentials of composing with multiple modes using digital composing technologies	Editors for (and potentially readers of) the undergraduate digital rhetoric journal <i>JUMP</i>	Novice digital rhetorician	You hope to share your research-based multimodal composition with other undergraduate students who are also interested in digital rhetoric

DIY or the People Ideas and Things (PIT) Model

The third possibility I offer differs from the first two in a number of ways.

Inviting students to submit to *Young Scholars in Writing* or to *JUMP* also asks them to

⁴⁰ This option would work particularly well for themed sections. A themed section of first-year composition takes up a single issue or "theme" throughout the semester exploring it from a variety of perspectives and using different genres. For instance, the issue of autoimmune disorders might be examined through different discourse communities such as the social sciences, natural sciences, and humanities.

play the writerly role of a professional-in-training in our own field. But since one of the essential qualities of undergraduate research is giving students an opportunity to do work that is personally rewarding and meaningful, given their own goals and interests, we must acknowledge that not all students desire to train as a rhetorician. Teachers who want to affirm that students in a first-year composition course might be interested in conducting research in a wide range of fields can take a “do it yourself” (DIY) approach to undergraduate research. In other words, composition instructors can invent opportunities for their students to conduct *undergraduate research* by hosting a conference or starting a journal for first-year student writers. One example⁴¹ of this is the *People, Ideas, and Things* project⁴² at the University of North Carolina, Chapel Hill, a multi-year experiment in supporting multi-disciplinary undergraduate projects.

⁴¹ There are a variety of different models of undergraduate research. The PIT model discussed here is only one example. A founding premise of the PIT project is that undergraduate students can play an active and essential role in the knowledge-making work of a scholarly community. To enact this belief, members of the PIT team developed a first-year composition curriculum designed to foster undergraduate research experiences in a group of pilot first-year composition courses. Addressing the readers and editors of the *PIT Journal*, students in these pilot sections write in research genres (conference proposals, conference presentations, literature reviews, and journal articles). The University of North Carolina at Chapel Hill’s Office for Undergraduate Research supports these courses, especially through the Graduate Research Consultants (GRCs) program, which funds graduate students who serve as research mentors for undergraduate students. (See http://www.unc.edu/depts/our/grads_post/grads_grc.html for more information about the GRC program at UNC-CH.)

⁴² For additional background and further details about the PIT project, see “Peersourcing the *PIT Journal*: The Technosocial Pedagogical Hooks and Layers of Collaborative Publishing” in *Designing Web-Based Applications for 21st Century Writing Classrooms* (2013), edited by George Pullman and Batong Gu. Also see “Peersourcing: A Definition and Application” in *Peer Pressure, Peer Power: Collaborative Peer Review and Response in the Writing Classroom* (forthcoming), edited by Steven J. Corbett, Michelle LaFrance, and Tegan Decker. For other models of undergraduate research in English studies, see *Undergraduate Research in English Studies* edited by Laurie Grobman and Joyce Kinhead.

Grounded in a DIY ethos, this project uses open source software to help students in multiple first-year composition sections network their research and writing. Kelly German, a student who has participated in PIT through a first-year composition course and later co-authored a published book chapter with other members of the PIT team sheds light on the multidisciplinary aspects of the project:

Before this class even began, I didn't really want to be a part of it. English isn't one of my strong points, or something I even enjoy, for that matter. Having said that, within a matter of weeks after the semester began, I felt so glad that I had been placed into the PIT class. I really developed a genuine interest in what we were doing and working on. I found my attitude shifting from "How quickly can I get this done?" to "How can I make this project the best it can be?" One of the things I really enjoyed doing near the beginning of the semester was writing field notes. I felt like I was actually working on something that was enjoyable and showed that I really cared about what I was working on. I spent so much time interviewing students and filming that I am truly proud of the final video my group came together to make. (PIT Core 183)

Another way in which the *PIT* model differs from the first two pathways is in the review process. Both *Young Scholars in Writing* and *JUMP* are "refereed" or use a blind peer-review process, replicating the traditional publication model of professional academic journals. *PIT*, by contrast, uses a process called "peersourcing," which draws from the logics of crowdsourcing and involves all writers as reviewers. This facet of the *PIT* project creates a pedagogical opportunity to engage students in a variation of the

peer review process that isn't as formal as the blind peer review process, but isn't quite the same as in-class peer review workshops. Kelsey Smart, another student who has participated in the PIT project, elucidates the peersourcing process:

Writing for the PIT presented itself as a very "hands-on" learning experience. This was by far the most extensive learning I have ever had in terms of the writing process. This learning, however, wasn't learned through Ashley lecturing me about the "real" revising process; I went through all the steps on my own, with more than just my teacher and even my classmates helping me. I learned this information with other UNC students and through their feedback. (PIT Core 185)

Both Kelly and Kelsey's reflections about participating in the *PIT* project help us see that the collaborative active learning qualities of *undergraduate research* can be facilitated by the humanities even when we allow room for students to pursue their own research interests.

Commenting on the significance of the *undergraduate research* movement, Dotterer proclaims, "undergraduate research, therefore, is a comprehensive curricular innovation and major reform in contemporary American undergraduate education and scholarship" (82).

Throughout this project, I have described teaching interventions as disruptive technologies basing my use of this term on Christensen's explanation that disruptive technologies "bring to market a very different value proposition than had been previously available" (xv). In the current business model of higher education, there is an ongoing search for efficiency amidst unrelenting budget cuts in times of

economic uncertainty. The pedagogical interventions I propose, however, do not create efficiency. As Christensen explains is typically the case with disruptive technologies, they actually “result in *worse* product performance” if efficiency is the goal. Instead, as Christensen also suggests is typical of disruptive technologies, “they have other features that a few fringe (and generally new) customers value” (xv).

Earlier, I argued that by understanding the crucial role that disruptive technologies play in innovation, we would see that Bush and Hunt’s push for widespread adoption of online courses as a cost-cutting measure is not actually innovative. Instead, it provides an example of the innovator’s dilemma in higher education. With widespread adoption by composition instructors, a three-fold approach that incorporates *undergraduate research* supported by genre-based writing assignments and extended through design plans has the potential to become an innovative grassroots education reform movement, one with tangible benefits for students inside the classroom and out. As Malachowski reminds us, “[i]nvolving students in research not only assists them outside the classroom, but it also has a substantial impact on their classroom perspectives and subsequent learning experiences” (126). Drawing from this argument, I maintain that, as a disruptive technology, *undergraduate research* has the potential to not only be an agent of education reform, but also an agent of transfer. However, for this potential to be realized we must heed Wilson’s recommendation that “[f]aculty ... need to see undergraduate research in all disciplines, but especially in the humanities, as an

experience in which students, through careful and dedicated mentoring, really learn what it means to pass from ‘knowledge’ to ‘understanding’” (78). As simultaneously an agent of reform, innovation, and transfer, undergraduate research in tandem with genre-based writing instruction and design plans can help us move from a context of justification to a context of invention in our first-year composition courses.

APPENDIX A: PLACEMENT SCORE MATRIX FOR UNC WRITING PROGRAM
EFFECTIVE MARCH 2005 THROUGH THE 2011-2012 ACADEMIC YEAR.

SAT Writing	ACT (English)	AP (Language)	Place Into
460 and below	19 and below	1 or 2	English 100
470-630	20-29	3	English 101
640-680	30-31	4 or 5	English 102/102i
690 and above	32 and above		Exempt

APPENDIX B. INVITATION TO PARTICIPATE IN SURVEY
SENT ON JULY 25, 2012

I am writing to invite you to participate in a research study⁴³ by completing the following survey about undergraduate research and writing from the perspective of a first-year Carolina student. This survey should take approximately 15 minutes to complete. There is no payment or compensation for participating in this study and there is no penalty for choosing not to participate.

The purpose of this study is to measure attitudes, beliefs, and practices related to undergraduate research and first-year composition. I will use the results of this survey as part of the evidence in my dissertation and potentially in other scholarship that may emerge from my dissertation research including peer-reviewed/refereed journal articles and/or books.

Participation in this survey is completely voluntary and confidential. I, as the Primary Investigator, will have access to your individual responses. I **will not** use your name or any other personally identifiable information when reporting the results of the survey. All responses will be strictly confidential and handled in accordance with the CCCC "Guidelines for the Ethical Conduct of Research in Composition Studies."

I hope that you will choose to participate voluntarily because your responses will help me measure the beliefs, attitudes, and practices of first-year students at Carolina.

Follow this link to the Survey:

[\\${l:/ /SurveyLink?d=Take the Survey}](#)

Or copy and paste the URL below into your internet browser:

[\\${l:/ /SurveyURL}](#)

⁴³ IRB approved study exempt from further review.

APPENDIX C. FINAL FOLLOW-UP INVITATION TO PARTICIPATE IN SURVEY
SENT ON AUGUST 19, 2012.

This is a final reminder email inviting you to participate in a research study about undergraduate research and writing. As incoming first-year Carolina students, you are being asked to complete a short survey, which should take approximately 15 minutes to complete. This survey will end at 11:59 p.m. on Monday, August 20 and no further responses can be entered after that time.

There is no payment or compensation for participating in this study and there is no penalty for choosing not to participate.

The purpose of the study is to measure attitudes, beliefs, and practices related to undergraduate research and first-year composition. I will use the results of this survey as part of the evidence in my dissertation and potentially in other scholarship that may emerge from my dissertation research including peer-reviewed/refereed journal articles and/or books.

Participation in this survey is completely voluntary and confidential. I, as the Primary Investigator, will have access to your individual responses. I **will not** use your name or any other personally identifiable information when reporting the results of the survey. All responses will be strictly confidential and handled in accordance with the CCCC "Guidelines for the Ethical Conduct of Research in Composition Studies."

I hope that you will choose to participate voluntarily because your responses will help me measure the beliefs, attitudes, and practices of first-year students at Carolina.

Follow this link to the Survey:

[\\${l:/SurveyLink?d=Take the Survey}](#)

Or copy and paste the URL below into your internet browser:

[\\${l:/SurveyURL}](#)

APPENDIX D. SURVEY DISTRIBUTED TO INCOMING FIRST-YEAR STUDENTS
IN AUGUST, 2012

1. Close your eyes and think about research for a moment. When you open your eyes, answer the following:
 - a. What is research?
 - b. What mental images form when you think about research?
 - c. What do you imagine people doing?
2. What kinds of research do undergraduates conduct?
3. How important is it for each group below to publish the results of their research?

Question	Not important	Slightly important	Neutral	Important	Very important
professors	0	0	0	0	0
graduate students	0	0	0	0	0
undergraduate students	0	0	0	0	0

4. Please add any additional comments below:
5. What do you know about opportunities for undergraduates to publish their research at UNC?
6. What do you know about support for undergraduate research at UNC?
7. Was undergraduate research a factor in your decision to attend UNC?
Yes (add comments if you'd like)
No (add comments if you'd like)
8. Please rate your interest in conducting undergraduate research at UNC.

Not at all interested 1 2 3 4 5 Very interested
9. Please rate your likelihood of conducting undergraduate research at UNC.

Not at all likely 1 2 3 4 5 Very likely
10. This is a skip logic question based on responses from question 9.

- a. Please describe your motivation for wanting to conduct undergraduate research at UNC:
 - b. What would motivate you to conduct undergraduate research at UNC?
11. Did you take a campus tour before deciding to attend UNC?
 - a. If yes, what do you remember about the tour?
12. Do you remember undergraduate research being promoted in any of the recruitment materials you received from UNC?
 - a. If yes, please describe as much as you can remember about these materials and how undergraduate research was presented to you.
13. What kind of field do you plan to major in?

Answer
Humanities
Social Sciences
Natural Sciences
Undecided

14. How do you feel about taking first-year composition?
15. What kind of first-year composition course are you planning to take?

Answer
English 105
English 105 - Research Exposure
English 105i - Writing in Business
English 105i - Writing in Health and Medicine
English 105i - Writing in the Humanities
English 105i - Writing in Law
English 105i - Writing in Social Sciences
English 105i - Writing in Sciences

16. How many hours do you plan to spend on coursework for your first-year composition course outside of class?

0 - 2.9 hours per week
3 - 5.9 hours per week
6 or more hours per week
17. What kind of writing do you expect to do in your first-year composition course at UNC?
18. What kind of research do you expect to do in your first-year composition course at UNC?
19. What are the main differences between doing research for a first-year composition course and doing research for a science course (e.g. biology, chemistry, physics, etc.)?
20. Why do you think UNC requires all first-year students to take first-year composition?
21. What do you think students are supposed to learn in first-year composition?
22. What does it mean to "write well" at the college level?
23. Please indicate whether you agree or disagree with each statement below:

Question	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
I am a good writer	0	0	0	0	0
The ability to write well is important to academic success in college	0	0	0	0	0
What I will learn in my ENGL 105 course will help me with my other first-year courses	0	0	0	0	0
My ENGL 105 course will prepare me for college writing in general	0	0	0	0	0
My ENGL 105 course will teach me how to write in my major	0	0	0	0	0
I enjoy writing	0	0	0	0	0
I will be able to use the information I learn in my ENGL 105 course in many other college courses	0	0	0	0	0
I expect my ENGL 105 course to help me with writing beyond college	0	0	0	0	0

24. Please elaborate on why you do or do not expect what you learn in ENGL 105 to help with writing in your other courses?

25. How often do you check or update your social networking account(s)?

Question	Never	Once per week	Several times per week	Daily	Several times per day
Facebook	0	0	0	0	0
Twitter	0	0	0	0	0

26. Have you ever used a social networking site to collaborate with classmates for a school assignment?
27. Have you ever been required by a teacher to use a social networking site for a school assignment?
28. If a professor/instructor wanted to use a social networking site to help students learn the course materials more effectively, what are some recommendations you would make to this person?
29. Would you be willing to participate in a 10-15 minute interview to follow-up on this survey? If yes, please include your preferred email address:

APPENDIX E: TABULATION OF LIKERT-SCALE RESPONSES TO QUESTION 23

Question	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Responses	Mean
I am a good writer	3	28	97	190	67	385	3.75
The ability to write well is important to academic success in college	1	1	6	98	279	385	4.70
What I will learn in my ENGL 105 course will help me with my other first-year courses	4	6	48	172	155	385	4.22
My ENGL 105 course will prepare me for college writing in general	3	5	39	157	181	385	4.32
My ENGL 105 course will teach me how to write in my major	5	17	105	162	95	384	3.85
I enjoy writing	31	56	103	119	73	382	3.38
I will be able to use the information I learn in my ENGL 105 course in many other college courses	3	6	48	185	143	385	4.19
I expect my ENGL 105 course to help me with writing beyond college	6	8	49	175	147	385	4.17

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