

Reading at the Threshold

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Abstract: Recent considerations of threshold concepts in the rhetoric and writing studies discipline fail to consider the role that reading plays in the learning of student writers. This article reports results from a three-part, two-year, empirical study of seventy-five learners enrolled across four sections of a writing-intensive course. The course focused on disciplinary writing, and the study used observations, surveys, and interviews to examine the relationships among the course, the learners enrolled in it, and the reading associated with it. Data was gathered at two points during the course, as well as one year following the course, and results indicate that the reading that occurs in a writing-intensive course is transformative across the disciplines.

Introduction

Over the past decade, discussions of threshold concepts have spread around the globe, across the disciplines, and into rhetoric and writing studies. From the United Kingdom, the United States, and Australia to Sweden, Estonia, and China, scholars in a variety of disciplines—including accountancy, biology, chemistry, computer science, economics, education, philosophy, physics, psychology, and sociology—have conducted research that uses the threshold as a theoretical lens with which to understand student learning that is transformative. Within the rhetoric and writing studies discipline, researchers have applied threshold concept theory similarly—in a way that focuses on the transformation of the writing and the writers associated with writing-intensive courses.

In this article, I extend the existing research on threshold concepts in writing-intensive courses by examining reading's transformative role in such courses. In particular, I report results from a two-year empirical study of seventy-five undergraduate students, all of whom were enrolled across four sections of a required writing-intensive course at Virginia Polytechnic Institute and State University (Virginia Tech). The results suggest that the place of readers and reading in courses designed to develop more successful writers and more effective writing is much more significant than previously indicated by research studies on threshold concepts in rhetoric and writing studies.

First, I begin by providing an overview of threshold concept theory and, more specifically, the way in which threshold concept theory has been taken up in the rhetoric and writing studies discipline. Next, I describe the design of a three-part study, the purpose of which was to examine any qualitative difference in readers and reading that might be associated with the writing-intensive course under investigation. Finally, I discuss the study's results and evaluate the transformation of the readers and reading associated with the studied course.

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Threshold Concept Theory

Threshold concept theory works to identify those concepts that are transformative to disciplinary learning—that is, those concepts that lead learners to a changed disciplinary view, a changed disciplinary understanding, or a changed self-perception vis-à-vis a discipline (Meyer & Land, 2006, p. 3). The theory holds that, across all disciplines, certain concepts are connected to ideological, epistemological, and ontological shifts in learners (O'Brien, 2008, pp. 292-293). As a result of these transformative concepts, a writing student might, for example, undergo an ideological change and begin to view writing as an art, instead of a skill, submit to an epistemological shift and start to understand writing as a mode of knowledge production, instead of a mode of knowledge transmission, or experience an ontological epiphany and consider him or herself a writer, instead of a student.

The theory posits what it terms *threshold concepts*, and it suggests that threshold concepts operate both metaphorically and empirically. Metaphorically, threshold concepts distinguish themselves from core concepts. Whereas the latter is likened to a foundation upon which learning and learners are stacked and strengthened, the former is likened to a visual-spatial passage that reorients and transforms learners and learning. Educators invoke the "visual metaphor" of a threshold as a generative trope that helps to identify transformative disciplinary concepts (Meyer & Land, 2006, p. 19). The metaphor of the threshold further invites references to other conduits and passages, including doorways, portals, and gateways (Land, Meyer, & Baillie, 2010, p. ix). Empirically, threshold concepts lead to changes that leave the learner "qualitatively different" than he or she was prior to learning the concept (Meyer & Land, 2006, p. 6). Researchers can then detect these shifts by systematically studying learners and learning through a range of methods, including observation (Carstensen & Bernhard, 2008), survey (Shanahan, Foster, & Meyer, 2008, 2010), questionnaire (Ashwin, 2008), interview (Taylor, 2006, 2008; Kabo & Baillie, 2010; Pang & Meyer, 2010), and a mixture there within (Reimann & Jackson, 2006; Zander et al., 2008; Baillie & Johnson, 2008; Cove, McAdam, & McGonigal, 2008; Thomas et al., 2010; Park & Light, 2010; Orsini-Jones, 2010; Kiley & Wisker, 2010).

The twin dimensions—one metaphorical and one empirical—that comprise threshold concepts produce a tension in threshold concept research. When the empirical study of a concept fails to show a qualitative change in a learner, the metaphor of the threshold changes and the theory addresses barriers to, and variation in, learning (Land, Cousin, Meyer, & Davies, 2006, p. 195; Land, Meyer, & Davies, 2008, pp. 67-71). In other words, when transformation (i.e., the chief characteristic of a threshold concept) is not empirically verified, other characteristics are associated with threshold concepts and other descriptors assume prominence in threshold concept theory. In fact, threshold concept theory describes threshold concepts according to six additional characteristics (Land, Meyer, & Smith, 2008, p. x). The theory explains that threshold concepts are not only transformative, but that they are also:

1. Discursive, in that threshold concepts emerge from disciplinary language use
2. Bounded, in that threshold concepts are nested within disciplines
3. Troublesome, in that threshold concepts are challenging and difficult
4. Integrative, in that threshold concepts bind disparate disciplinary parts
5. Irreversible, in that threshold concepts cannot be unlearned
6. Liminal, in that threshold concepts emphasize the learner's journey

Of this list, the first and sixth characteristics are especially noteworthy. By acknowledging that threshold concepts are discursive, threshold concept theory stresses the crucial roles that reading and writing play within and across the disciplines. Thus, threshold concepts fundamentally depend upon disciplinary reading and writing practices. Further, by categorizing threshold concepts as liminal and thereby invoking *limen*, the Latin word for *threshold*, threshold concept theory highlights the movement of the learner with respect to the threshold. Thus, learners can be described as pre-liminal and post-liminal, as well as oscillating between the two states of liminality by performing knowledge in a way that resembles "a kind of 'mimicry'" and lacks authenticity (Land, Meyer, & Smith, 2008, p. x). Ultimately, the characteristics that threshold concept theory uses to describe a threshold concept remind researchers that transformation is always contingent and always relative.

Threshold Concepts, Rhetorical Genre Awareness, and Rhetoric and Writing Studies

In the discipline of rhetoric and writing studies, discussions of threshold concepts largely emerge from studies examining writing-related transfer (Moore, 2012a, 2012b). Studies interested in writing-related transfer are interested in the movement of writing and writers between two sites (Yancey, 2004, pp. 311, 315, 324), for example: academic to professional; personal to public. Often, though not always, a writing-intensive course constitutes the first site examined in writing-related transfer studies. Questions about the relationship between writing and reading are prevalent among the questions posed *by* writing-related transfer studies (Wardle, 2007, p. 83; Downs & Wardle, 2007, pp. 560-561, 572) and *about* writing-related transfer studies (Miles et al., 2008, p. 509; Bird, 2008; DelliCarpini, 2010, p. 197). These questions often interrogate the role that reading occupies in the writing classroom and, in particular, the influence of certain kinds of reading on writing.

However, within the subset of writing-related transfer studies that discuss threshold concepts, questions about the relationship between writing and reading are largely absent. The research that discusses threshold concepts in rhetoric and writing studies examines the transformation of learners and learning in first-year writing courses (Clark & Hernandez, 2011; Wardle & Downs, 2013), undergraduate professional writing programs (Pope-Ruark, 2011, 2012), and concurrent, cross-disciplinary general education courses (Adler-Kassner, Majewski, & Koshnick, 2012). These studies use the threshold concept construct, both metaphorically and empirically, to identify concepts that seem to bring about ideological, epistemological, or ontological changes in learners and learning. Like threshold concept studies in other disciplines, these writing-related studies are premised upon the notion that traveling over the metaphorical threshold—however troublesome or recursive this travel may be—provides students with more explicit access to transformative disciplinary concepts. In particular, these studies suggest that the following five concepts function as threshold concepts in rhetoric and writing studies:

- Audience (Pope-Ruark, 2011, p. 2, 2012, p. 243; Adler-Kassner, Majewski, & Koshnick, 2012)
- Purpose (Adler-Kassner, Majewski, & Koshnick, 2012)
- Situated Practice (Adler-Kassner, Majewski, & Koshnick, 2012; Wardle & Downs, 2013)
- Professionalism (Pope-Ruark, 2012, p. 243)
- Genre (Clark & Hernandez, 2011, pp. 66, 76; Pope-Ruark, 2012, p. 243; Adler-Kassner, Majewski, & Koshnick, 2012)

Among the five threshold concepts suggested by the research in rhetoric and writing studies, the concept of genre—more specifically, the concept referred to as *rhetorical genre awareness*—receives

the most widespread attention as a conceptual portal. Rhetorical genre awareness, as these studies and others (Devitt, 2004; Bawarshi & Reiff, 2010; Nowacek, 2011) explain, is the awareness that genres serve as much more than simple forms into which content is poured. Such awareness becomes transformative when learners recognize that genres work to mediate actions, audiences, and situations by connecting writers and writing (i.e., agents and modes of production) with readers and reading (i.e., agents and modes of reception) in complex, sophisticated ways. Rhetorically, then, genre awareness necessitates readers and reading as well as writers and writing. Thus, a *rhetorical* awareness of genre, which recognizes the interaction and influence between production and reception, might very well "be applied to reading as well as writing" (Devitt, 2004, p. 198).

Despite the applicability of rhetorical genre awareness to both writing and reading, discussions of rhetorical genre awareness as a threshold concept focus intensely upon writing and conspicuously omit any treatment of reading. In the existing research, the positioning of rhetorical genre awareness as a threshold concept is premised upon the purported benefits that rhetorical genre awareness provides writers and writing. The idea that rhetorical genre awareness cultivates more successful writers follows, as Adler-Kassner, Majewski, and Koshnick note, from the notion that actively developing and consistently mobilizing a rhetorical awareness of genre makes writers more adaptable and, therefore, more successful (2012). Similarly, the view that rhetorical genre awareness contributes to efficacious writing in differing contexts undergirds Clark and Hernandez's conclusion that "it may be the case that genre awareness, unto itself, constitutes a threshold concept that is necessary for students to master before they can proceed to write effectively in other contexts" (2011, p. 76).

But by concentrating so doggedly on the benefits that rhetorical genre awareness potentially provides writing and writers at the threshold, the rhetoric and writing studies discipline risks ignoring the benefits that genre awareness might offer reading and readers at the threshold. On the one hand, rhetoric and writing studies scholars seem to agree that rhetorical genre awareness constitutes a threshold concept. On the other hand, the rhetoric and writing studies research that examines genre awareness as a threshold concept seems to focus on writers and writing at the expense of readers and reading. What occurs in this research is a kind of rhetorical winnowing, in which the rhetorical counterparts of writing and reading enter the threshold, but only one—writing—exits.

This being the case, I would like to offer some rhetorical ballast to the discussions about rhetorical genre awareness as a threshold concept in rhetoric and writing studies by reporting results from a study of the learners and learning that emerged from a writing-intensive course at Virginia Tech.

Methods

This study was designed to examine the role that a required, writing-intensive course played in the disciplinary trajectory of seventy-five students. Broadly, this study sought to measure any ideological, epistemological, or ontological transformation in the learners and learning associated with this writing-intensive course. More specifically, one of the study's objectives was to identify and qualitatively measure the relationship between this particular course and reading. The study, in other words, was open to and interested in the possibility that, in addition to being applied to writing and writers, the threshold concept of rhetorical genre awareness might well be applied to reading and readers.

The study examined the learners and learning that occurred in four sections of a required, writing-intensive course called "Writing from Research." As the second of two three-credit-hour courses that comprise the Composition Program at Virginia Tech, this course works to develop more successful

writers and more effective writing. As its title—"Writing from Research"—suggests, the course focuses on "writing with sources" (George, 2009, p. 6). With a nod towards the writing that students will be encountering across the disciplines, the course asks students to "write for various audiences and in various genres" and entreats each writer "to think carefully about [their] decisions" (George, 2009, p. 6).

The four sections of "Writing from Research" that participated in this study were structured around the types of writing that learners would encounter in their disciplines of study. The study's two researchers (the author and a colleague) taught the participating sections and, as such, followed identical syllabi with the same assignment sequence. The seventy-five students enrolled in the participating sections belonged to a variety of degree programs, including: Aerospace Engineering; Animal and Poultry Sciences; Apparel, Housing, and Resource Management; Biochemistry; Business; Civil and Environmental Engineering; Computer Science; Construction Engineering and Management; Fashion Merchandising; Finance; Fisheries Science; Food Science and Technology; Geography; Human Nutrition, Foods, and Exercise; Marketing; Material Science and Engineering; Psychology; and, Sociology. Thus, the learners in the participating "Writing from Research" sections were beginning degree programs that would fan them out across a wide range of disciplines.

The study sought to achieve a concentrated and nuanced view of the learners and the learning that were associated with this writing-intensive course, especially as this view pertained to rhetorical genre awareness. Metaphorically, this study aimed to provide a glimpse of readers and reading *at* the threshold with readers and reading *over* the threshold. Empirically, this study looked for a qualitative contrast in readers and reading that could be attributed to the writing-intensive course. In order to do so, the study gathered multiple data points through observation, survey, and interview.

First, the study used in-class observations of student presentations to assess students' performance of disciplinary reading. The presentations were one component of the course's first assignment (Appendix A), which required each student to select a scholarly article from his or her discipline, read and analyze that article, present this analysis orally to the class, and submit this analysis as a short paper. The presentations allowed the researchers to assess student reading performance directly, since each presentation depended upon the presenter's reading of a scholarly article. Each presentation was followed by a class discussion, as all students were expected to have read each respective article in advance of each presentation. The presentations and the discussions occurred in the first five weeks of the course and focused on the rhetoric of each article—that is, the interaction and influence between the article's production and the article's reception. Thus, the presentations allowed the researchers to observe seventy-five learners working to develop a rhetorical awareness of the scholarly article genre. In effect, then, these presentations provided a metaphorical glimpse of students standing at the threshold—that is of students grappling with a transformative disciplinary concept in rhetoric and writing studies.

Second, the study administered an electronic survey that asked students to gauge their abilities in, and preparedness for, disciplinary reading. The survey was distributed to all seventy-five students during the last week of the "Writing from Research" course. Fifty-three students responded to the survey, drawing upon their perceptions of the course, its assignments, and its activities to gauge any change in their reading confidence, abilities, or preparation. The survey included a mix of multiple choice questions, multiple selection questions, open-ended questions, and four-point Likert items. The survey items asked students to assess how well particular course activities and assignments impacted their "ability to read and to comprehend academic texts," or prepare them "for academic reading in [their] discipline." In some instances, the survey items were paired so that they ascertained students' perceptions of an ability—such as reading—before the course as well as after the course. Because the survey referenced particular course assignments, it yielded self-reported

data that pinpointed the perceived relationship between a course component and a change in reading ability or reading preparedness. In this way, the survey allowed threshold concepts to emerge from the learners, their course experiences, and their valuations of those experiences. Thus, the survey instrument qualitatively measured change in a learner, change that is indicative of a threshold concept.

Third, the study conducted follow-up interviews with survey respondents, so as to reevaluate the views, understandings, and self-perceptions that were associated with the "Writing from Research" course. Eight of the fifty-three survey respondents consented to a thirty-minute interview one year after the "Writing from Research" course ended. The interviews were part scripted and part artifact-based, and asked interviewees to:

- Describe their declared major, their coursework, their writing, and their reading since the course's end
- Reflect upon their course experiences in light of their current disciplinary work
- Revisit their survey responses and reassess their earlier answers
- Review their "Writing from Research" writing assignments and provide commentary on their past writing

These interviews provided the interviewees with significant license to discuss any changes in ideology, epistemology, or ontology that they attributed to the writing-intensive course. Thus, the interviews provided some perspective on the metaphorical threshold—that is, after learners had completed the writing-intensive course and since they had begun discipline-specific coursework across a variety of engineering, life science, and social science disciplines.

In the following sections, then, the multiple data points gathered through the observations, surveys, and interviews are brought together to illustrate the change that a writing intensive course can bring about in readers and reading. All of the individuals who were observed, interviewed, or surveyed provided the researchers with their informed consent, in compliance with Virginia Tech's Institutional Review Board Protocol 10-251.

Observation Data and Discussion

The data collected through the observation of student-led presentations offers a glimpse of learners standing at and around the metaphorical threshold that is rhetorical genre awareness. The presentations required each presenter to offer a five-minute introduction to a scholarly article of their choice and then generate a fifteen-minute discussion about the rhetoric (i.e., the interaction and influence between production and reception) of that article. The shared goal of the presenters and the discussants was to demonstrate a rhetorical awareness of genre, and the success of these presentations largely depended upon the discussion questions posed by each presenter.

Three categories of discussion questions were observed during the presentations and each of these categories can be understood in terms of the question's relationship to a rhetorical awareness of genre. The first category of discussion questions demonstrated, in accordance with the assignment, a rhetorical awareness of the scholarly article genre. More specifically, this category of questions blended elements of Lloyd Bitzer's rhetorical situation (1968) with neo-Aristotelian rhetorical criticism as outlined by Edwin Black (1978). In other words, the questions in this category focused on the audience, exigence, and constraints associated with each article, as well as the purposes and logics undergirding the relationship between the writers of these articles and the readers of these

articles. Threshold concept theory might refer to these questions as post-liminal questions, or questions that are indicative of a learner who has moved through the threshold that is rhetorical genre awareness. These post-liminal discussion questions generally sustained discussion segments, because they tapped into the learners' common work with the theories of rhetoric that were addressed in the "Writing from Research" course, as well as their collective struggles to develop a rhetorical awareness of the scholarly article genre.

The second category of discussion questions elicited commentary on the scholarly articles in a way that contradicted the goals of the assignment. The questions belonging to this second category could be classified as arhetorical, in that they seemed to view the genre of the scholarly article merely as a simple form into which disciplinary content is poured. These questions focused upon the core disciplinary concepts and methods presented by the article, as opposed to the way that the article itself mediated writing and reading. Threshold concept theory might refer to these questions as pre-liminal, since they do not indicate that the presenter has moved through the threshold that is rhetorical genre awareness. These pre-liminal discussion questions generally failed to sustain discussion segments, because they asked discussants (many of whom had no prior exposure to the discipline from which the article came) to evaluate disciplinary content.

The third category of discussion questions fell somewhere in between the first two categories—that is, somewhere in between demonstrating rhetorical awareness and not demonstrating rhetorical awareness. The questions in this category were posed so vaguely that they invited discussants to offer answers that either displayed rhetorical genre awareness or provided arhetorical commentary. Threshold concept theory might refer to these questions as liminal questions, or questions that hover at and around the threshold. Overall, these liminal questions contributed to inconsistent, unstable discussion segments, in which presenters would pass quickly over certain responses and spend considerable time addressing others.

The typical student-led presentation included all three kinds of questions, shifting among pre-liminal, liminal, and post-liminal questions. Here, the presentation led by a student named Derek serves as an example. As a Construction Engineering and Management major, Derek focused his presentation on an article from the *Journal of Construction Engineering and Management*. Derek's presentation included all three kinds of questions (Table 1). During his presentation's more rhetorical segments, Derek posed questions about the text's target audience and its credibility. During his presentation's more arhetorical segments, Derek focused on the article's disciplinary content, including its research methods and its key terms. A number of Derek's other questions hovered somewhere in between pre-liminal questions and post-liminal questions, including one question regarding the article's abstract and one question pertaining to the article's graphs. Discussants replied to these liminal questions with both rhetorical and arhetorical answers. In response to the question about the article's graphs, for example, one discussant insightfully spoke to the difference in purpose among maps, pie charts, and tables, while a second discussant banally commented that "the map was cool."

Table 1: A Sampling of Derek's Discussion Questions

Pre-liminal (Arhetorical)	Liminal	Post-liminal (Rhetorical)
Do you believe that this is the best [research] method?	Do you have any beliefs about the research method?	Do you believe that the article's writers presented their research method as the best method among other methods?

Did the key terms help focus the topic?	Did the key terms help?	Did the key terms help organize the article? Why or why not?
Did the abstract help the article's content?	Did the abstract help you read through this article?	Did the way in which the abstract was written help you read through this article? If so, how?
Which graph do you like?	Which graph was the most effective?	Which graph was the most effective in presenting the data in a reader-focused way?
What audience understands this article?	What is this article's audience?	What audience is this article targeting?
How credible is this article's data?	How credible is this article?	How credible does the article seem [to you, its reader]? Why?
<i>Un-shaded boxes present the actual questions posed by Derek. Shaded boxes present hypothetical variants on Derek's questions to illustrate the distinctions between pre-liminal, liminal, and post-liminal categories.</i>		

Because Derek's presentation did not consistently pose post-liminal questions and, instead, jumped among the three categories of questions, his presentation had difficulty sustaining its momentum and engaging the discussants. From an observer's perspective, the presentation's movement among these three kinds of questions also made it unclear as to whether Derek was developing a rhetorical awareness of the scholarly article genre. Threshold concept theory calls this movement oscillation and the theory associates oscillation with a lack of authentic learning. Thus, the presentation's oscillation suggests that Derek had not, at this early point in the course, developed a rhetorical awareness of genre. Rather, the oscillation suggests that Derek was performing, or perhaps mimicking, an inauthentic kind of rhetorical awareness, as he struggled with the threshold concept. The oscillation further inhibited the researchers from drawing any resolute conclusions about reading's relationship to rhetorical genre awareness. If Derek was, for instance, mimicking post-liminal questions about the article's audience, abstract, and constraints, then reading might have played a scant role in his presentation, as Derek could have generated these questions by simply listening to other presentations.

The oscillation that was observed in Derek's presentation was also observed in the presentations of Derek's peers. Most every presentation mixed pre-liminal, liminal, and post-liminal discussion questions (Table 2). The more successful presentations better adhered to the assignment's parameters by posing more post-liminal questions—questions that ranged from commonplace to insightful and indicated a rhetorical awareness of the scholarly article genre. Still, liminal questions and pre-liminal questions also appeared in most every presentation. The observations suggest that some presenters posed liminal questions when they were analyzing more difficult sections of their chosen article. These liminal questions allowed the presenter to address complicated aspects of the genre cautiously, because discussants were free to offer remarks grounded in their growing rhetorical awareness or comments based upon their own opinions and disciplinary knowledge. Thus, discussion would continue regardless of the kind of answer the presenter received. The observations also suggest that some presenters posed pre-liminal questions when they wanted to demonstrate their own confidence in and enthusiasm for a given discipline's content. Discussants seldom answered pre-liminal questions sufficiently, which allowed presenters to serve as disciplinary experts and follow-up by offering correctives or explaining their understandings.

Table 2: A Sampling of Derek's Peers' Discussion Questions

Pre-Liminal (Arhetorical)	Liminal	Post-liminal (Rhetorical)
"Are the (mathematical) values in this section used properly?"	How are the mathematical values in this section used?	Are the (mathematical) values in this section used rhetorically?
"Could you understand the claim?"	How understandable is the claim?	How does the writer help you understand her claim?
How accurate was the title?	"What did you think of the title?"	How effective was the title in capturing the article's main argument?
What disciplinary principle reveals the bias in this article?	"Do you think this article was biased?"	What do you think is the strongest bias in this article? What evidence do you have to support your position?
How thoroughly is the content introduced?	How is the introduction?	"In what way does the introductory paragraph set-up the rest of the paper?"
Are the authors credible?	How are the authors credible?	"How did section two help establish the credibility of the authors?"
Do you understand the equation?	What are your thoughts on this equation?	"What was the purpose of putting this equation in the article?"
<i>Un-shaded boxes present the actual questions posed by students. Shaded boxes present hypothetical variants on students' questions to illustrate the distinctions between the pre-liminal, liminal, and post-liminal categories.</i>		

The oscillation observed in the student-led presentations indicates that learners struggled with the concept of rhetorical genre awareness during the early part of the "Writing from Research" course. Threshold concept theory considers this kind of struggle to be a signal of a threshold concept's characteristic troublesomeness. In other words, the observations yielded empirical evidence that does not suggest any ideological, epistemological, or ontological change in learners. Rather, the empirical evidence indicates that learners were experiencing difficulty cultivating rhetorical genre awareness. This difficulty ostensibly contributed to their asking overly vague questions, as well as arhetorical questions. Thus, because the empirical evidence gathered through observation was highly inconclusive as to this assignment's role in contributing to a qualitative difference in learners and learning, the findings pertain more to the troublesome aspects of rhetorical genre awareness than they do to the transformative aspects of rhetorical genre awareness.

Based upon the observational data alone, the impact of this early assignment upon learners was extremely unclear, and reading's place in these early presentations was even more unclear. Indeed, the possibility remained that reading played little role in this assignment, maintained a scant relationship with rhetorical genre awareness, and could be easily mimicked by student presenters for the purposes of a twenty-minute presentation. However, by the end of the "Writing from Research" course, fifty-three survey respondents, Derek among them, would offer another perspective on this first assignment's efforts to cultivate rhetorical genre awareness.

Survey Data and Discussion

Whereas the observation data provided an unclear picture of the learners and learning at and around the metaphorical threshold, the data gathered through an exit survey at the end of the "Writing from Research" course offered a clearer picture of the learning that students associated with the first assignment—that is, the assignment designed to cultivate rhetorical awareness of the scholarly article genre. The exit survey was administered nine weeks after the student-led presentations had ended and it attempted to assess change in learners through multiple choice questions, multiple selection questions, open-ended questions, and four-point Likert items, all of which drew upon learners' perceptions of the first assignment.

Respondents agreed that their work for assignment one—work aimed at developing a rhetorical awareness of the scholarly article genre—helped prepare them for reading in their discipline. Derek, for instance, agreed that the first assignment helped prepare him for reading in his discipline (Table 3). Another thirty-one respondents shared Derek's sentiment, while an additional fifteen respondents found themselves in strong agreement with the claim that the first assignment prepared them for disciplinary reading. The general agreement among these forty-seven respondents was greater than the agreement for any of the other survey items pertaining to any of the other major course assignments.

Table 3: Perceived Reading Preparation

Prompt: Assignment One "helped to prepare me for academic READING in my discipline."		
Strongly Agree	15	28.3%
Agree	32 (Derek included)	60.4
Disagree	5	9.4%
Strongly Disagree	0	0%
no answer	1	1.8%

However, respondents were in less agreement as to whether their work developing a rhetorical awareness of the scholarly article genre helped prepare them for writing in their disciplines. Although Derek strongly agreed with the perception that the first assignment helped prepare him for writing in his discipline, other respondents were more circumspect in their perceptions. Only thirty-six respondents, Derek among them, perceived the assignment as preparing them for writing in their disciplines (Table 4). Notably, nearly one-third of respondents disagreed with this perception. In other words, sixteen of fifty-three respondents did not perceive their work developing rhetorical genre awareness as helpful to their preparation as writers.

Table 4: Perceived Writing Preparation

Prompt: Assignment One "helped to prepare me for academic WRITING in my discipline."		
Strongly Agree	12 (Derek included)	22.6%
Agree	24	45.3%
Disagree	16	30.2%
Strongly Disagree	0	0%
no answer	1	1.8%

The survey data reveals a strong distinction in the way that learners perceived their work developing a rhetorical awareness of genre. Even though rhetorical genre awareness was introduced in a writing-intensive course, learners perceived rhetorical genre awareness as more helpful to their reading than to their writing. Thus, the data suggests that rhetorical genre awareness does not just apply to reading *as well as* it does to writing, but that the threshold concept might actually apply to reading *better than*, perhaps even *more than*, it does to writing—even in the confines of a writing-intensive course.

Importantly, other data from the survey elaborates on the suggestion that the first "Writing from Research" course assignment was helpful in preparing learners for disciplinary work, especially disciplinary reading. Indeed, another survey item asked respondents whether they would recommend the first assignment for use in future "Writing from Research" courses (Table 5) and it also prompted respondents to explain the rationale behind their recommendation. A separate area of the survey queried respondents about the most helpful and least helpful aspects of the course. All of these survey items received extended responses that mentioned assignment one and spoke to its goal of cultivating rhetorical genre awareness in learners. The respondents who replied to these items often explained their understanding of rhetorical genre awareness and its relationship to reading and writing.

Table 5: Assignment One Recommendation

Question: Would you recommend Assignment One for students taking this course in the future?		
Yes	42 (Derek included)	79.2%
No	7	13.2%
no answer	4	7.5%

In some cases, these open-ended responses resolved apparent tensions among data points. For example, two areas of Derek's survey seemed almost contradictory. On the one hand, Derek joined forty-one of his peers in recommending assignment one for future use. On the other hand, Derek categorized assignment one as the least helpful aspect of the course. The palpable tension between these data points is resolved by Derek's extended responses. Derek recommends the assignment, because he perceives that the assignment helped his writing by "displaying a common format used

for articles in [his] field of study." By equating genre with "format," Derek positions genre as a mere form into which content might be added. Thus, he displays a pre-liminal or arhetorical awareness of genre. This reductive understanding of genre is detrimental to his overall perception of the assignment. Derek explains that he found assignment one to be the least helpful aspect of the course because he "didn't fully comprehend the reasoning [behind writing] such a detailed paper explaining an article." Thus, Derek had yet to develop rhetorical genre awareness by course's end, and the absence of any ideological, epistemological, or ontological change damaged his evaluation of assignment one.

However, the extended responses provided by other students suggest that some students were, at this point, developing a rhetorical awareness of genre. These students understood that the scholarly article genre mediated activities, audiences, and situations. For instance, one respondent paired her endorsement of assignment one with the explanation that "[r]eading about articles in my field of study helped me further understand the career itself." In fact, many other respondents articulated a similar connection between assignment one, rhetorical genre awareness, and reading. A different respondent commented that, although assignment one did not improve his writing, he thought that it "helped best with how to read articles in [his] discipline, because [he] could pick [each article] apart, piece by piece and look at it more thoroughly." Another respondent's assessment of assignment one was more direct: "Although this assignment helped me prepare for reading in my major, I did not enjoy completing it." These respondents valued rhetorical genre awareness precisely because of its applicability to reading.

Another group of responses addressed not only the applicability of rhetorical genre awareness to reading but also the applicability of the threshold concept to future work, both disciplinary and professional. "Good idea," wrote one respondent about assignment one, before noting that "these are the articles that we will be reading and responding to in the future." Likewise, another respondent recognized the assignment's importance in providing "the student[s] an early look into what they will likely be using for the rest of their college career and possibly post-college career." Threshold concept theory might view these comments as recognizing that threshold concepts, rhetorical genre awareness among them, are integrative and bounded. In these comments, respondents work to incorporate rhetorical genre awareness (as reading) into their disciplinary and career trajectories. Thus, the threshold concept is integrative, in that it unifies formerly discrete pieces of work for learners. At the same time, these comments quite clearly show that the respondents see rhetorical genre awareness as only one part of their future success. As such, the threshold concept is bounded in that it does not comprise the whole of what learners need to learn about a discipline.

The exit survey data suggests that, after fourteen weeks of the "Writing from Research" course, learners viewed rhetorical genre awareness as benefitting their disciplinary reading practices and, as such, valued the concept. For these learners, rhetorical genre awareness as reading was both integrative and bounded. The data also suggests that, when rhetorical genre awareness is associated with writing, the concept's benefits were less apparent to learners. In other words, learners did not see the connection between rhetorical genre awareness and more effective writing. Interview data collected one year after the exit surveys had been completed indicates that these findings are more pronounced as learners engage with their disciplinary coursework.

Interview Data and Discussion

One year after completing the "Writing from Research" course and responding to the study's survey, Derek and seven of his peers consented to participate in follow-up interviews. These interviews sought to reevaluate the views, understandings, and self-perceptions that learners associated with

the "Writing from Research" course. In effect, the interviews provided perspective on the metaphorical threshold—that is, since learners had begun discipline-specific coursework across a variety of engineering, life science, and social science disciplines.

The interview data gathered from Derek recasts assignment one as a reading assignment and reassesses this assignment based upon Derek's evolving rhetorical genre awareness. Notably, Derek spent a substantial part of his interview discussing the reading that he practiced in his discipline. In classes since "Writing from Research," Derek has had to read a good number of articles, determine which concepts were most important, and select which concepts required him to conduct more research. He connects this process of "trying to get around some of the technical terms" with his work on the first assignment in the "Writing from Research" course. Derek's attempts at getting around the technical terms suggests that he understands the genre of the scholarly article rhetorically—that is, the comments reveal an awareness that the scholarly article is not merely defined by the technical content that is deposited into it; rather, that the article works in ways that are not wholly dependent upon disciplinary subject matter. These comments signal a marked shift—indeed, a growing rhetorical awareness of genre—in a student whose exit survey praised assignment one only for the way in which it introduced him to a format common among articles in his field.

Derek's experiences and his new-found awareness caused him to reconsider his responses to the exit survey. Whereas his survey response indicated that he agreed that the first assignment helped to prepare him for reading academic texts, during his interview, Derek stated that he strongly agreed with the statement. A more drastic change occurred when Derek reviewed his comments regarding the least helpful aspect of the "Writing from Research" course. Derek was shocked that he had listed the first assignment as the least helpful aspect of the class. Somewhat startled by his earlier response, he declared: "I definitely don't agree with that." In fact, he completely changed his position so that, one year later, he "would definitely say that [the first assignment] was the most helpful."

Like Derek, other interviewees also recast the first assignment as a reading assignment and revised their earlier assessments of the assignment. Angie, for instance, remembered reading "a lot of articles" in conjunction with the first assignment. Although this kind of reading was difficult in the beginning, she was quick to note that this reading prepared her for subsequent semesters. Angie also recalled thinking that the assignment wouldn't be that helpful, but in retrospect, she "guess[es] that it did help [her] improve her reading." She offers the evidence of her experiences in a more recent class, in which the professor asks the class to complete summaries of academic texts: "When we're doing summaries, I feel like I know what to do, but a lot of kids don't."

Similarly, another student, Konnor, reevaluated the first assignment in terms of its helpfulness in preparing him for reading in his discipline of civil engineering. Konnor felt that the first assignment helped to prepare him for the reading more so than the writing, indicating that he now strongly agrees with the assignment's influence on reading preparedness. According to Konnor, "the reading part is the most important."

Finally, Bryce recalled the first assignment as the most beneficial part of the "Writing from Research" course. Bryce described this assignment as asking him to take an article, "look deeper into it," and "really, really work it over." This kind of rhetorically aware reading was something that Bryce "didn't normally do with the articles that [he] read." However, Bryce sees the kind of reading that resulted from this first assignment as "play[ing]-in more so than anything [he's] done in [his] classes since."

Together, these retrospective comments from Angie, Konnor, and Bryce largely reframe the first assignment—the assignment designed to develop a rhetorical awareness of the scholarly article genre—as a reading assignment. Additionally, these interviewees credit the genre awareness assignment with the development of some of their current reading practices across the disciplines.

Thus, this interview data suggests that rhetorical genre awareness does indeed contribute to more effective reading and more successful readers, just as it is theorized to contribute to more effective writing and more successful writers.

In addition to addressing the relationship between rhetorical genre awareness and reading across the disciplines, the interview responses also revealed that students in the "Writing from Research" course did in fact experience the kind of qualitative change in ideology, epistemology, or ontology that is associated with a threshold concept. Derek, for instance, attributed his involvement in the "Writing from Research" course with a change to his major. Derek entered his section of "Writing from Research" as a Construction Engineering and Management major, but he later changed his major to Mechanical Engineering. According to Derek, "sometime in between" the course's first assignment and the course's last assignment, he began investigating other major options. Reading the research, as he recalls, led him to change his major to Mechanical Engineering. Thus, the journey that Derek took as he worked to develop a rhetorical awareness of genre spurred a significant change for Derek, a change that impacts his worldview, knowledge base, and self-perception vis-à-vis a different discipline.

Beyond noting his changed major, Derek offered what is perhaps the best example of a transformative change when he was asked if he ever thought back to the "Writing from Research" course. Derek indicated that he, indeed, thinks back to the course and he offered the following story as an illustration. As a requirement for his "Electrical Theory" course, he was asked to write abstracts for academic texts. With the assignment in hand, Derek headed home, sat down at his computer, opened up a blank document, and stared at the screen. Then, he remembered his first assignment in the "Writing from Research" course. As he stated, "I kind of recalled working a little bit with [abstracts] in English." Indeed, during the presentation that he led, Derek had posed a series of discussion question about abstracts to his classmates. Thinking about his previous work with abstracts, he began to figure out his "Electrical Theory" assignment. As he told the story, his recollections of that first assignment in "Writing from Research" helped him construct "a picture, or idea, of how [he] should try to write [the abstract] or interpret the article."

Here, then, in a story that occurred months after the "Writing from Research" course ended, Derek offers an illustration of the qualitative change in his understanding and view of his reading and writing practices—a change that he attributes to the rhetorical genre awareness he began developing in the "Writing from Research" course. In other words, Derek's comments suggest that rhetorical genre awareness contributed to significant epistemological and ideological shifts. Epistemologically, Derek began to see the knowledge of abstract writing and reading as co-dependent and this knowledge allowed him to figure out his assignment. Ideologically, Derek constructed a picture, or a view, that helped shaped his writing as well as his reading.

The interview data from students other than Derek provides further evidence that rhetorical genre awareness leads to the transformative change characteristic of a threshold concept. Bryce, for instance, was also asked whether or not he ever thought about his "Writing from Research" course. In response, he replied that he "always thinks back to [it]" when he has to write a paper. As Bryce explained, he specifically thinks back to the first assignment. Bryce remembered reading one article about energy, in particular. This article, as Bryce recounted, "presented the same unit of energy in five or six different ways," and this inconsistent presentation was immensely confusing. Now, when Bryce writes his own papers, he thinks back to that confusing article in hopes of avoiding that same kind of confusion with his readers. He also rereads his own writing before he hands it over to a reader.

These comments indicate that assignment one was successful in developing Bryce's awareness of genre as a complex interaction between agents and modes of production as well as agents and modes

of reception. Significantly, though assignment one has long since been completed, the awareness associated with it has not been abandoned. Rhetorical genre awareness is, as threshold concept theory would say, irreversible; it cannot be unlearned. The ideological, epistemological, and ontological change that Bryce underwent as a result of rhetorical genre awareness also seems to be irreversible: He views reading as indispensable to more effective writing, understands the writer's work in terms of the reader's needs, and considers himself to be both a writer and a reader.

Ultimately, the interview data confirm the status of rhetorical genre awareness as a threshold concept; however, they also reveal that many learners consider rhetorical genre awareness to be transformative only well after they had completed the assignment associated with the concept, with some learners recognizing the concept's importance only after they finished the writing-intensive course and moved across the disciplines. Even then, these learners apply the concept, first, to reading and, second, to writing.

Conclusion

This study shows that reading not only contributes to the development of rhetorical genre awareness, but that reading is also transformed by rhetorical genre awareness. Moreover, student writers are inclined to frame or recast rhetorical genre awareness as reading. This recasting works to counter the rhetorical winnowing that occurs in research on threshold concepts in the rhetoric and writing studies discipline. Reading does not merely contribute to rhetorical genre awareness, but it benefits from rhetorical genre awareness—that is, rhetorical genre awareness can lead to more effective reading and more successful readers, in addition to more effective writing and more successful writers. Metaphorically, then, reading is positioned before the threshold that is rhetorical genre awareness, at and around the same threshold, and after that threshold, too.

Reading's positioning with respect to the metaphorical threshold further substantiates reading's importance across the disciplines. As both Devitt (2004, p. 204) and Nowacek (2011, pp. 104-105) argue, rhetorical genre awareness is integral to student learning across the disciplines and beyond. Since reading (like writing) is integral to rhetorical genre awareness and since rhetorical genre awareness is integral to student learning across the disciplines, reading is therefore integral to student learning across the disciplines. But, as this study suggests and as threshold concept theory implies, reading seems to occupy a more important and surprisingly consistent role across the disciplines. Reading, it might be said, is in and of itself transformative to student learning across the disciplines. No matter what discipline a learner journeys into or passes through, reading's purpose remains constant: Reading is a dynamic mode of reception that transforms student learning and learners.

Because threshold concept theory allows researchers to articulate a complex cross-disciplinary definition of reading, threshold concept theory enables a newfound productivity in reading research. This productivity is newfound in that it does not emerge from definitional differences, but rather from definitional commonalities. Reading researchers recognize that definitions of reading differ across programs "and more so across disciplines," and encourage others to view these differences as productive (Salvatori & Donahue, 2013, p. 200). However, a common definition of reading that runs across the disciplines might also be viewed as productive, for it might initiate and sustain a consistent interest in reading across the disciplines, all the while preventing future research from overlooking reading's role across the disciplines. Defining reading as a dynamic mode of reception that transforms student learning and learners allows researchers to recognize the rhetoric at work across all disciplines and to embrace the discursive characteristics of all threshold concepts. When researchers define reading according to a common, complex, and transformative definition, they

enable themselves to communicate across the disciplines and they position reading, in addition to writing, squarely at the threshold.

Appendix A - Article in Your Major Assignment

Description

For this assignment, you will be responsible for selecting a scholarly article from your chosen major that the entire class will read. You will then lead the class in a presentation/discussion of that article. Finally, you will write a short, 3-section paper that pertains to this article. Although the paper will be turned in after your presentation, it is strongly recommended that you draft this paper before your presentation. Each of these assignment components are detailed below.

The Article

Given the design of this assignment, your selection of an article is extremely important. Accordingly, our class will visit the library twice in the first two weeks of the semester. During these two visits, we will be fortunate enough to work with the Newman Library staff as we locate our articles. Before these visits, you should "choose" a major—at least one that you are seriously considering. This choice will not only guide this assignment, but it will also influence your final course project. Consider this choice to be an opportunity to explore a career future.

You will be required to post your article to our class scholar site by January 30th, and our library visits will occur before this deadline. Your article selection should be guided by the following questions:

- Was this article published in a scholarly journal from my chosen field?
- Does this article's topic interest me?
- Could I lead a class discussion on this topic?
- Does this article's text, as in its writing and its rhetorical features, interest me?
- Could I lead a class discussion on this text?

Finding an appropriate article means that you answer "Yes" to the above questions. Finding an exceptional article means that you answer "Yes" to one final question:

- Would this article's topic interest my classmates?

Your selection of an article will not receive a grade, but it will influence the parts of this assignment that do receive grades. No duplicate articles are allowed, so the first individual to post his or her article on the course scholar site reserves the right to that article. Other individuals must then find a different article.

Please post your chosen article in one of the two following formats:

1. Adobe PDF file (.pdf)
2. Microsoft word compatible file (.doc)

Please adhere to the following template when naming your article:

- ENGL 1106-Your Last Name-Author's Last Name(s)

So, for the article that I (Dr. Gogan) chose, the document title would be as follows:

- ENGL 1106-Gogan-Jolliffe Harl

The Presentation/Discussion (5 points)

Purpose

- To enable you to bring your growing knowledge about your major into our discussion of disciplinary writing.
- To allow you to lead classroom discussion for a twenty-minute block of time.
- To highlight the rhetorical nature of all writing and all knowledge.

Audience

- Your classmates
- Your teacher

Format

Total Length: 20 minutes

- Introduction: 5 minutes
 - Offer a specific rationale for choosing your article.
 - Profile the journal from which the article came.
 - Familiarize your classmates with the conventions of your major.
- Discussion: 15 minutes
 - Engage your classmates in an intellectually stimulating discussion concerning the **text** (not the topic) of your article.
 - Evaluate the article's major claim and/or the implications of that claim.
 - Critique and/or compliment the writing of the article.
 - Forward your own interpretation of the **text** (not the topic) and solicit your classmates' responses.
 - Pose open-ended questions, questions that **cannot** be answered with a "Yes" or a "No."
 - Pose questions with which you, yourself, might be struggling.
 - Although you should feel free to draw upon the day's Informal Writing prompt, your presentation should move beyond the prompt into new areas.
 - Feel free to call upon your classmates.
 - Feel free to use handouts or visual aids as you see fit.

Grading Criteria

Content

- How effective was the rationale for the selection of the article?
- How effective was the profile of the journal from which the article came?
- How engaging were the questions posed to the audience?
- How effective was the treatment of the article's claims and implications?
- How effective was the treatment of the article's text and its rhetorical features?

Organization

- How effective was the presentation's structure?

Delivery

- How well did the presenter make eye contact with the audience?

- How effective was the presenter's volume?

The Paper (5 points)

Purpose

- To provide you with material for your presentation.
- To offer a rationale behind your choice of article.
- To situate your article within the journal from which it came.
- To allow you to develop your thinking about a text from your discipline.

Audience

- Your classmates
- Your teacher

Format

- 3-5 double-spaced pages of typed text.
- MLA Works Cited page that includes a citation for your article.

Description

This paper consists of 3 sections:

Section 1: Journal Profile

The purpose of the journal profile is to describe the journal that published the article that you've chosen. As such, your profile should provide readers with your overall impression of the journal and its rhetorical positioning. Your profile, however, should employ details that support your impression. The move you should make is: This is my impression of the journal, and this is what causes me to have that impression of the journal.

Section 2: Rationale

The purpose of the rationale is to explain why you chose the article that you chose. In other words, this rationale asks you to explain the substantive purpose (as in substantial, or significant, purpose) behind your selection. Simply stating that the article matches the above criteria, or acknowledging that you answered "Yes" to the above questions, will not suffice. The key, in this section, will be to connect your interests to the article's topic and the article's text.

Section 3: Rhetorical Analysis

The purpose of a rhetorical analysis is to break the text of the article into parts, so that you can better understand how the text works as a piece of writing. Your analysis should focus on two or three aspects of the article at most. You might choose to consider the article's content, context, author(s), or appeals. You might choose to investigate patterns, to note organizational trends, to explore specific terminology. In brief, you want to suggest an answer to the question: How should we understand this article and the claim it forwards?

Grading Criteria

Purpose/ Audience Negotiation

- How well does each of the respective sections adhere to the section's purpose, as stated above?
 - How effectively does the profile forward an overall impression of the journal?
 - How effectively does the rationale explain the reasoning behind the selection of the article?
 - How effectively does the analysis assert a claim about the article?
- How well does the writer address the class and the teacher as an audience who is interested in, but might not know a lot about, writing in a particular major?

Organization

- How well does the paper adhere to the 3-section format?
- How well do the writer's claims assume a dominant role in organizing each section?

Development

- How effective are the claims? (Does the writer come across as logical?)
- How well is particular evidence—from the journal, the article, the class discussion, or the writer's own opinion—used to support each reason?

Writerly Ethos

- How well does the paper employ an *ethos* of a credible college student researcher?

Readability

- How effective are the choices about sentence punctuation, subject position, parallelism, transitions, action verbs, and clarity/concision?
- Are there any spots where sentence shape (length, punctuation, wording, . . .) interferes with meaning?
- How effective are the academic citation practices: MLA parenthetical citation and Works Cited page?

Participating in Your Classmates' Presentations (5 points)

The expectation here is that you arrive to class prepared and eager to participate. Your participation is crucial to the success of your peer's presentations; participate often, every class.

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