

Using content reading assignments in a psychology course to teach critical reading skills

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Abstract: Liberal arts students are expected to graduate college with fully developed critical reading and writing skills. However, for a variety of reasons these skills are not always as well developed as they might be - both during and upon completion of college. This paper describes a reading assignment that was designed to increase students' discipline-specific reading and writing skills. The assignment was piloted in a mid-level social psychology class. Pre-test/post-test comparisons indicate substantial improvement in students' ability to identify thesis statements, recognize and interpret evidence, and other effective and critical reading skills. Furthermore, students themselves rate the assignment as efficacious in helping them with both their reading comprehension and writing skills.

Keywords: critical reading, reading comprehension, written communication skills, undergraduate education.

I. Introduction.

This paper presents the outcome assessment of a semester-long series of assignments designed to develop undergraduates' reading comprehension and critical reading skills. However, the idea for the assignment was first inspired by the observation that many of our students struggle to write at an appropriate discipline-specific college level. In particular, they seem to struggle with forming thesis statements, providing synthesized evidence for their thesis statements, and summarizing an author's position when using it to support their own claims.

One of the hallmarks of a liberal arts education is the development of excellence in both writing and critical reading skills. Indeed, many employers acknowledge that while the specific skills of any given profession require on-the-job training, they expect graduates entering the workplace to possess these 'soft skills'. Of these skills, reading comprehension is often ranked highest, with 63% of employers rating it as 'very important'; unfortunately, employers also rank communication at the top of the list of skills in which college graduates are deficient (National Endowment of the Arts, 2007, p.14). Furthermore, students themselves seem to be aware that communication skills generally, and specifically how to read critically and effectively, are skills that they should learn in college (Walker, 2008). Given the importance of these skills, the observations that they are increasingly lacking, and students' desire to learn them, we present one classroom technique aimed at increasing students' reading skills but designed in such a way that these skills might translate into better writing as well. We expected students' assignment grades to improve over the course of the semester, and their scores on a critical reading

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assessment to be significantly higher at post-semester testing compared to their pre-semester scores.

A. Description of the Problem.

There can be little doubt that reading is an essential component of academia and accounts for a large proportion of the learning that takes place (Pugh, Pawan, & Antommarchi, 2000). Although the ability to read and understand complex material is a key predictor of college success, the level of national literacy strongly suggests that students enter college ill-prepared for college-level reading (Lewin, 2005; U.S. Department of Education, 2005). Consequently, many colleges and universities have implemented remedial education programs, otherwise known as developmental courses, designed to offer below-college level instruction in foundational skills such as mathematics, reading, and writing. These classes are designed to ensure that incoming students are given an opportunity to develop the skills in which high school may have left them deficient before moving on to more challenging college-level classes. According to some reports, as many as 40% of traditional undergraduates, and as many as 60% of community-college students, take one remedial course while in college (Attewell, Lavin, Domina, & Levey, 2006; Bailey, Jeong, & Choo, 2010). Reading instruction has historically been a key component of remedial education (Boylan, 2003) and in recent years as many as 13% of all college freshman are enrolled in a developmental reading class (U.S. Department of Education, 1996).

While some have begun to question the efficacy of remedial education (Bailey, 2009; Complete College America, 2012) this has not slowed the pace of development of such courses, or of state-wide developmental education initiatives (Smith, 2011). To some degree, these remedial courses have been successful in achieving what they set out to do, at least to the extent that they help students achieve a level of reading and writing competency that they should ideally have reached upon graduating high-school. However, beyond this fairly basic remediation for the struggling students, which allows them to move on to other classes, there is little evidence that students are improving. Roksa and Arum (2011) report that during the first two years of college, students show very little real gain in their critical thinking, analytical reasoning, or writing skills. Therefore, despite the best efforts of colleges to implement these remedial and foundational classes it is clear that a number of problems remain that may contribute to the inadequacies noted by academics and employers alike.

Not all colleges and universities offer the full range of these remedial or foundational courses. Reading in particular is a skill that college students are assumed to have and therefore many institutions do not teach reading to their students (Bosley, 2008). For those students attending a college which does have such interventions and programs, the typical college track begins with remedial classes that they may require. Then they may advance to foundational college writing and reading classes, and subsequently to the rest of the liberal arts curriculum and classes in their chosen major. One problem with this framework is that there may be a disconnect between the remedial or foundational classes and the rest of the student's college classes. From a student's perspective this disconnect might be as simple as perceiving the foundational reading and writing classes as a chore - something they must pass in order to move on. Similarly, these classes may seem irrelevant to students in their content; indeed critics of the remedial education approach argue that because of the potential for students to perceive remedial class content as irrelevant, it is more effective to place them into subject area classes as soon as possible and offer extra co-requisite support rather than pre-requisite classes (Complete College America, 2012).

Perhaps more critically though, the type of reading and writing students do in these courses is often fundamentally different from that in other coursework. For reading classes, this difference is reflected in the types of text assigned, what students are asked 'to do' when reading a text, how their compliance with the assignment and comprehension of the text are assessed, and so forth.

These differences reflect the reality that there are different kinds of reading for different purposes. For example, most of the reading that students do in high school is receptive reading - that is reading for information (Biancarosa & Snow, 2006). While this remains important in college, there is a further expectation that students be able to read in additional ways as well. For example, at the heart of critical reading is that the reader is able to identify what a text does, and how. This then allows for a more active reader who makes connections with and within the material, therefore constructing new knowledge as they read (El-Hindi, 1997). Reading-to-write involves integrating the information with one's own ideas in order to produce novel written material, and it is this type of reading that we most associate with college level work (Flower, Stein, Ackerman, Kantz, McCormick, & Peck, 1990).

Just as students may experience a disconnect between reading in their classes and the rest of the curriculum, faculty likewise often view these classes as more distinct than perhaps they should be. For example, reading classes are frequently taught by reading specialists or by the English department. Faculty members in other disciplines are rarely involved in this instruction. Furthermore, students are expected to take whatever remedial classes are deemed necessary and then be able to engage with the rest of the curriculum with no further need of instruction, reflecting the fact that explicit reading instruction is often sidelined as remedial (Harkin, 2005), even in literature classes (Bosley, 2008). This is problematic for a number of reasons. First, critical reading strategies require reinforcement through continued practice (Nist & Holschuh, 2000; Pugh, Pawan, & Antommarchi, 2000). Most college classes have the implicit and often explicit expectation that students read, however without continued feedback and guidance, they may not be practicing the appropriate skills in the ways they need to in order to be successful. Second, how one reads depends on both the reason for reading, the kind of text one is reading, and its specific content. For example, why and how one reads a short passage differs in important ways from why and how one reads a textbook and this in turn differs from an original source or an empirical research article. Faculty may unintentionally assume that the reading part of the instruction was taken care of before the students enrolled in their psychology/economics/biology/etc. class. Students are expected to move seamlessly from reading prose passages in remedial/foundational classes to reading textbooks for receptive reading in general education classes and then transition into upper-level classes and be able to read original texts from a reading-to-write perspective (Flowers et al., 1991), where it is expected that they understand the texts enough to meet the challenge of integrating them into a term paper (Johns, 1997). Similarly, explicit instruction regarding how to read the specific texts of their chosen major is too frequently lacking. Because reading classes are cross-disciplinary, students are taught general reading skills using more generic sources; however, there are often idiosyncrasies to our disciplines with which perhaps we are not adequately familiarizing our students.

Many universities and colleges have bravely implemented policies and curriculum changes to address the deficiencies that students have when they first arrive at their institutions. We believe that the disconnect which we have outlined is not one that should be addressed in these foundational reading classes but rather by the disciplines themselves. Similarly, it is

important to acknowledge that there is wide variation in the degree to which specific disciplines already do this. Philosophy for example is far more likely to assign students original texts and to carefully and methodically teach students how to read these texts. Likewise, English literature classes certainly require students to read extensively and perform literary analysis. However, many disciplines, including the popular social sciences, rely heavily on textbooks to disseminate vast amounts of information to students and we suspect instructors are less likely to assign original texts or to assess reading specifically beyond testing the learning of the content. The assignment that we piloted, and describe in this paper, was specifically designed to close this gap.

B. Theoretical Background.

The series of assignments we describe involves reading original psychology texts and identifying their key components. We expected this to result in improved comprehension and critical reading skills - which we assess - but also lasting improvement in writing skills - which we do not assess in this paper. These expectations are informed by the literature about how students learn and the scholarship that emphasizes the link between reading and writing.

The value of practice when learning and developing any skill is well documented, in particular the importance of extended and deliberate practice (Ericsson, 2006). This applies to academic skills such as reading and writing, which is a significant reason why remedial/foundational college courses are so reading and/or writing-intensive. However, here again is a disconnect: although everyone acknowledges the importance of practice in foundation classes, we often do not give our mid and upper-level students adequate opportunities to practice the kinds of reading and writing we expect from them. The presumption is that once the basic skills are formed this will generalize. However, much of what we know about how humans learn suggests in fact that successive approximations, feedback, and practice at each step is a more successful approach (Skinner, 1953; 1968). Similarly, the principles of learning by modeling (Bandura, 1962; 1973; 1977) suggest that if we want our students to write well, specifically in the style of their discipline, then one of the best ways they might learn to do this is to be exposed to models, i.e., to read the work of professionals in their field. For example, many upper-level psychology classes assign research papers or research proposals that require students to write a literature review. In addition to explaining to our students what this means, and perhaps even providing a few examples, much could be gained by increased exposure to published psychology papers. In an ideal world, our students are reading original texts in order to write their term papers; however, more realistically they are using textbooks and finding summaries and online sources for the same information. An assignment that forces them to read these texts in full provides the much needed opportunity for practice at reading and gaining the associated benefits to their writing through modeling. However, inherent within the principle of modeling and social learning theory is that the learner must pay attention to the model in order to learn the skills (Bandura, 1962; 1973; 1977). Providing students with an assignment that is specifically designed to make them read original sources and to pay attention to them for more than just content should encourage this attention.

Although we do not explicitly assess any improvements in the students' writing, the benefits to their reading are expected to translate into better writing. This reasoning is based on the vast literature which demonstrates that reading and writing are inextricably linked and are most effectively taught as integrated processes (Bartholomae & Petrosky, 1986; El-Hindi, 1997;

Flower et al., 1991). This might be especially true of the reading-to-write style of reading which is so crucial to college success. If reading and writing are crucial flip-sides of one another (Downs, 2000), then it might be reasonably hypothesized that activities which strengthen one will tend to strengthen the other. However, it is important not to allow another disconnect to creep in by focusing on reading/writing without specific and adequate consideration of how one connects to the other. Therefore, in designing our reading assignment, which was intended to expose our students to discipline-specific models of writing, the deficiencies that we had been observing in the students' writing guided the structure of the assignment – that is, we asked students to pay attention to the kinds of things we had noticed they struggled to do in their own writing when reading.

C. Details of the Assignment.

We designed an assignment with the specific purpose of helping students learn how to read original psychology texts. It was piloted in a mid-level social psychology course. Instead of using a traditional textbook for the class, the weekly readings assigned were original psychology texts that related to that week's topic, for example: *The Self and Social Behavior in Differing Cultural Contexts* (Triandis, 1989), *Self-Esteem as an Interpersonal Monitor: The Sociometer Hypothesis* (Leary, Tambor, Terdal, & Downs, 1995), and *Stereotype Threat and the Intellectual Test Performance of African Americans* (Steele & Aronson, 1995). Each week the students answered the following questions based on that week's readings: (1) In one sentence explain what the reading does by using verbs like argue, demonstrate, compare, describe, etc. (2) Identify the thesis of the text. (3) List three main pieces of evidence or arguments the authors use to support their thesis. (4) Give the definition of two unfamiliar words from the reading. (5) Write one sentence that paraphrases the author's idea and references it in APA style. These tasks were specifically designed to improve students' reading comprehension skills as well as those skills that serve as the foundation of their critical reading skills: the ability to recognize an author's purpose, to identify what the text does, and to understand persuasive elements of the text (Kurlund, 2000).

The students received a grade out of a maximum of 10 for each weekly assignment. However, grading was generous to encourage the students' continued engagement and motivation to complete the assignments. For example, demonstrating that the text had been read and completing all aspects of the assignment would result in grade of seven, even if there were some minor factual errors or errors in comprehension. A grade of eight reflected the student's competency with the material with only minor mistakes. Grades of nine and above indicated mastery of the material, no mistakes, as well as a sophisticated level of understanding (for a 10). Some students did sometimes earn a five or six for poor or incomplete work. Therefore, while technically the grading scale was from 1-10, in practice, students' grades ranged from 5-10. Specific feedback was provided to each student to encourage improvement throughout the semester. In addition, during most weeks, the class examined the text as a group and the instructor was able to help provide guidance for how to read the text, including offering strategies for reading challenging texts and techniques for identifying the thesis, evidence, and so forth. This takes a co-requisite approach by providing built in support for basic skills in the context of a traditional content based class (Complete College America, 2012).

II. Method.

A. Participants.

Participants were thirty female students enrolled in a *Self and Identity* course at a small comprehensive university in Washington, DC. Twenty-six students completed the pre-test, twenty-seven completed the post-test, and twenty-three students completed both. The majority of students were either juniors (n=13) or seniors (n=9). There were some sophomores (n=7) and there was only one freshman. On average, the students had taken 68 credit hours (approximately 22 classes) previous to the semester in which they enrolled in *Self and Identity*. All students had taken *Introductory Psychology* as it was a prerequisite for *Self and Identity*, but most had taken many more psychology and sociology classes. In addition, all students had taken critical reading and foundational writing classes in their freshman year.

B. Procedure.

The first author taught the class in the spring of 2012. It was a 200 level (mid-level) social psychology class that explored self and identity issues including the ways in which we come to know and understand ourselves, biases in processing self-related information, the content, structure, organization and function of the self, and the ways in which our membership to social groups (race, gender, religion, etc.) contribute to our sense of self. Twenty-percent of the students' overall grade came from completing the weekly reading assignment. To examine whether the students' critical reading ability improved due to these assignments, students completed a pre and post-test of critical reading skills based on readings that were unrelated to the course content.

C. Materials.

Pre and post-test. During the first and the last class period of the semester, students were assigned a short reading and answered multiple-choice comprehension questions based on the reading's content. The readings were both from the *Taking Sides* book series and were selected to match in approximate length and technicality. Neither reading related to the content of the course. The pre-test reading was from Barkley's (2007) *International Consensus Statement on ADHD* and the post-test reading was from Brizendine's (2009) *The Female Brain*. The comprehension questions were modeled after the GRE's critical reading questions. The questions asked students to identify the main point of the passage, indicate with which a number of statements the authors would agree, what might be inferred from the passage, why authors mention specific facts/make certain comparisons, the meaning of key terms, and what the aim of the passage was. The questions were designed to be moderately challenging for all students. The second author developed all of the pre and post-test questions and does not know the students, had no contact with their work, and was not familiar with the content of the class.

Weekly reading assignment. The syllabus explained to students that one of the objectives of the class was to become comfortable with reading original source psychology texts and that to facilitate this skill they would complete weekly readings and associated weekly reading assignments that were to be turned in to the professor as a hard copy in class. The format for these assignments was the same each week and the specific requirements are described above.

Student evaluations. Students completed a survey following completion of the course that asked them how valuable they found the assignment and the class generally for improving their reading comprehension, critical reading, and writing skills. Three questions asked how much the class helped students examine and interpret a written text, and present ideas effectively in writing (see Table 1); these were taken from the standard class evaluation used by the university with response scales of 1=*not at all* to 4=*very much*. Additional questions asked students to compare the *Self and Identity* class to other classes they have taken (see Table 1). Students responded to these questions on a scale of 1=*much less than other classes* to 9=*much more than other classes*. Finally, students were asked to comment in their own words on the weekly reading assignment.

III. Results.

The class average from the pre to post-test showed a statistically significant improvement in reading skills $t(22) = -4.32, p < .001, d=.90$. At the start of the semester the average number of multiple choice questions answered correctly was 8.04 out of a possible 12 ($SD = 2.23$) and at the end of the semester the average number of multiple choice questions answered correctly was 9.91 out of 12 ($SD = 1.05$). Of those students who completed the pre-test 58% received what could be considered a failing grade, i.e. less than 70% (corresponding to a score of 8.4 out of 12) with three students scoring as little as four or five out of 12. At post-test this ‘failure rate’ was reduced to just 15% and no student scored below an eight at post-test.

Almost all students improved, and those who did not improve ($n = 2$) or scored slightly worse at post-test ($n = 4$) were those who initially performed at the top; the four students who performed worse at post-test than pre-test had pre-test scores of at least 10 and remained at or above 10 (out of a possible 12) at post-test. Examining those students who scored at the lower end at pre-test allows us to focus on the students in whom we are particularly concerned about effecting change. Among the 14 students who received what could be considered a failing grade at pre-test we see an overwhelming improvement $t(13) = -9.18, p < .001, d=2.45$, from an average of 6.64 out of 12 ($SD = 1.45$) at pre-test to an average of 9.82 out of 12 ($SD = 1.20$) at post-test.

The students’ improvement might also be reflected in an increase in their weekly reading assignment grades. Figure 1 illustrates the average weekly grade of those students who completed the assignment, which was most of the class. The average grade for the first week’s assignment is somewhat inflated by the fact that it was liberally graded as the first assignment while students were familiarizing themselves with the professor’s requirements and expectations. This was expressed to students, and they were aware, that they ‘got off lightly’ the first week. After this first week, every effort was made to remain consistent in grading the assignment so that any increase in grade reflects an improvement in the students’ skills. Therefore, if we do not consider the first week, we see a gradual increase in grades over the course of the semester that then plateaus and settles at an average in the mid to upper eight range until the end of the semester when the class average drops again. This drop might be a reflection of the end of the semester pressure and so forth. In addition, week 10 involved in-class group presentations so it is likely that students were focusing less on the readings than usual. Overall, the pattern does seem to suggest a steady increase.

Additional evidence for the potential efficacy of the assignments is the degree of student compliance in completing the assignments. There were eleven assignments across the semester and the majority (57%) of the students completed all of them, a further 21% only missed one

assignment, and a further 11% only missed two, leaving a minority of just 10% who missed three or more. While this is not direct evidence of the assignment effectiveness in terms of what it teaches students, it does suggest a degree of engagement with the assignments, which might be taken as further support of their value.

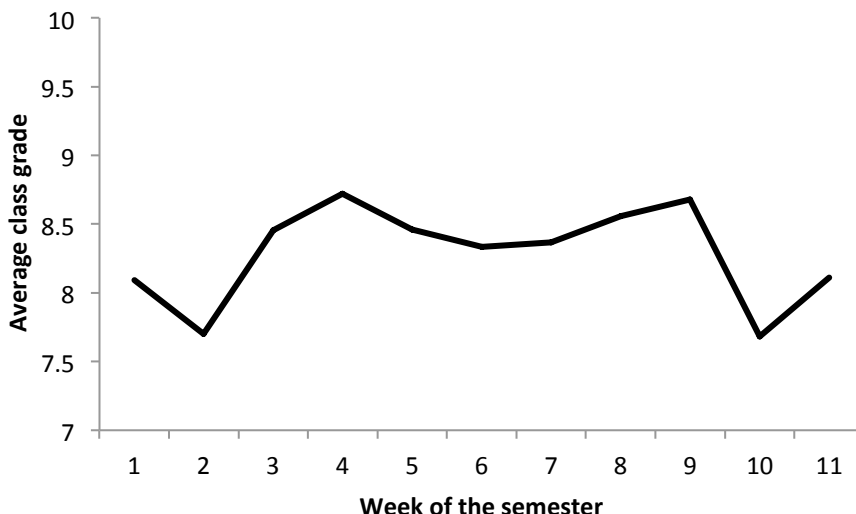


Figure 1. Average class grade for the weekly reading assignments over the course of the semester

Finally, although students' self-report responses to the course evaluation survey should not be taken as direct evidence for the efficacy of the assignment, they can be viewed as customer satisfaction data supporting the value of the assignment. The students' responses suggest that they found the assignment to be helpful for their reading skills as well as their writing skills. The questions along with the mean response to each are presented in Table 1. Students indicated that the class was very helpful for the reading skills of examining, interpreting, and analyzing written texts as well as for the writing skills of presenting ideas effectively. The remaining questions asked students to compare the class to others they have taken in college, and asked specifically about the skills that the assignment was designed to develop. Student responses were all above 7 on the 10-point scale suggesting that students felt that the class was more helpful than other college classes at developing these skills, in some cases much more. Particularly notable are those items on which students rated the class at eight or above – helping them to understand original psychology texts, identify thesis statements in texts, and identify evidence in texts. These were all explicit goals of the class, and in particular the assignment, and the students' responses suggest that they felt satisfied that these goals were met. Not surprisingly, ratings were higher for questions which asked about reading skills compared to those that asked about writing skills; the assignment was fundamentally a reading assignment, with the intended extra benefit of aiding students writing, which these students' responses suggest was successful.

Table 1. Student responses to a survey evaluating the class on key outcomes.

Thinking of your experience in Self and Identity, using a scale from 1=<i>not at all</i> to 4=<i>very much</i>, to what extent did the course help you to do the following:	Mean	SD
Examine a written text and make judgments about the value of information presented and assess the soundness of the author's conclusions.	3.93	0.26
Interpret and analyze written text and understand how literary devices such as imagery, metaphor, or point of view contribute to the overall meaning	3.87	0.35
Present ideas and information clearly and effectively in writing.	3.87	0.35
For the following questions please think about Self and Identity compared to other classes you have taken at this university and respond using a scale from 1=<i>much less</i> to 9=<i>much more</i>.	Mean	SD
Compared to other classes how much did Self and Identity help you understand original psychology work / texts?	8.13	1.19
Compared to other classes how much did Self and Identity help your critical reading skills?	7.87	2.13
Compared to other classes how much did Self and Identity help you identify thesis statements in texts?	8.00	2.34
Compared to other classes how much did Self and Identity help you identify evidence in texts?	8.20	2.08
Compared to other classes how much did Self and Identity help you learn how to summarize an idea for referencing in a paper?	7.60	2.23
Compared to other classes how much did Self and Identity help develop your vocabulary - particularly your psychology vocabulary?	7.36	2.34
Compared to other classes how much did Self and Identity help your ability to WRITE strong thesis statements?	7.27	2.28
Compared to other classes how much did Self and Identity help your ability to WRITE papers in the style of the discipline of psychology?	7.13	2.26
Compared to other classes how much did Self and Identity help your ability to WRITE papers that incorporate evidence to support a thesis?	7.20	2.24

In addition to the survey questions, students were also asked to comment in their own words on their experience with the weekly assignments, these responses indicated that the students found the assignments helpful in developing their reading and writing skills, for example:

“I think . . . identifying thesis and finding supportive evidence *weekly* encouraged the students to feel comfortable in doing such on their own and in other classes if and when needed.”

“I felt that the weekly reading assignments really helped me to understand the text and understand other text in different classes. I feel that in order to do my papers I will ask myself those questions to help me pull out key elements.”

“The weekly reading assignment really helped my vocabulary and finding evidence in texts to support the thesis!”

“The weekly reading assignments were challenging but extremely effective. My skills in both reading and writing have improved since taking this course.”

“The weekly reading assignments will help me improve my reading and critical thinking skills when it comes to reading and analyzing lengthy articles. It also helped me sum articles up into paraphrases and be able to provide evidence.”

“The weekly readings were very helpful. Having to do the weekly readings I can say has greatly improved my ability identifying the thesis and evidence. Also helped with learning the correct way to cite without penalty but helping understand why and how it's suppose to be. I think these assignments sometimes are not met with enjoyment by students weekly but it is helpful and does what it sets out to do; improve students' ability to analyze and interpret effectively”

IV. Discussion and Conclusion.

The skill of reading is a critically important skill in itself, and as the flip-side of good writing it is an essential cornerstone of a successful college career. Beyond this, employers want graduates, in particular liberal arts graduates, to come to them with this skill set already developed. However, students, employers, and academics alike recognize that this skill is not as well developed as it should or could be. This paper presents the outcome assessment of an assignment piloted in a psychology course that was designed to allow students to learn and practice how to effectively read original psychology texts. The evidence suggests that the assignment was indeed successful in its goal. There was a significant improvement in the students' reading skills at the end of the semester, and particularly notable improvements were observed in those students who were seen to be struggling at the start of the semester. Furthermore, students themselves expressed that the assignment was very helpful in developing a number of reading and writing skills, providing further evidence of the value of this assignment.

It is critical that only one of the students in this pilot class was a freshman, and that many students were in their junior or senior year. These students have successfully completed the foundational reading/writing classes and so according to the stated goals of these classes in theory should have the college level skills needed for academic success. However, their pre-test scores suggest that the reading skills they developed and honed in these foundational courses have not translated into more discipline specific classes. If our students had been freshman, then the significant improvement we saw might have been attributable to other classes that they were taking concurrently (e.g., the foundational reading/writing classes); however, this was not the case. Likewise, most of the students had taken many classes before this one, including psychology classes, and yet the pre-test scores suggest that while they may be learning important

content in these classes they may not have received adequate guidance in reading within their discipline. Similarly, as upper-level, primarily social science, students, these students are enrolled in classes that require them to write term papers that include a thesis and provide evidence by integrating original sources; the pre-test scores suggest that the students would struggle to do this. Finally, it is important to note that both the pre and post-test were multiple-choice and therefore objective and not subject to experimenter bias suggesting a real improvement in skills. Unfortunately, we cannot say whether this improvement is enduring. However, we believe that if students continue to have the opportunity to practice these reading skills then they will strengthen and persist throughout their college careers and into the workplace.

There are a number of limitations and important suggestions for future work that should be acknowledged. First, this assignment was specifically designed for, tailored to, and piloted in a psychology course. We encourage scholars and practitioners in other disciplines to reflect on the need for similar interventions. The precise details of the assignment will, and should, vary across subject area but we suspect that the principle of modeling and guided practice would apply to all disciplines. However, it is important to adhere to the principle of discipline-specific modeling and with that in mind realize that this precise assignment in its current form might not be applicable to a non-psychology course. Indeed, these kinds of assignments cannot be cross-disciplinary if they are to be successful, but rather should be focused on discipline-specific training. Second, as with most empirical research, our results should be generalized with caution. The specifics of the university and its students may make this assignment particularly effective; however, the deficit in reading/writing skills in students is certainly widely noted so it is likely that some form of this assignment would be valuable in many universities. Similarly, the relatively small and heterogeneous sample that we used means that systematic or conceptual replication would improve the external validity of our findings. Third, while all efforts were made to ensure that the pre and post-test readings and questions were equivalent, they were different and it is therefore possible that students simply found the second reading and questions to be easier. Finally, as already noted, it is not possible to say whether the improvements that we witnessed are enduring ones, nor did we assess whether there was the associated improvement in students writing. Future studies should assess both of these possibilities.

This paper described the details of an assignment born of the observation that our students struggle to write. Specifically, they struggle to form thesis statements and provide supporting evidence. The logical and empirical link between writing and reading (Bartholomae & Petrosky, 1986; El-Hindi, 1997; Flower et al., 1991), as well as known principles of learning (Bandura, 1962; 1973; 1977; Ericsson, 2006), suggested an intervention that would help students with these skills. This intervention provided students with models of good discipline-specific writing along with a required assignment that was designed to help guide the students in how to read, prompting them to pay particular attention to those aspects observed to be lacking in their own writing. The specific instructions for how to read these texts allowed for learning through deliberate and ongoing practice (Nist & Holschuh, 2000; Pugh, Pawan, & Antommarchi, 2000). A variety of evidence suggests the efficacy of this assignment for all students, in particular those most in need of it. This success supports the suggestion that foundational skills can be taught successfully as a co-requisite skills rather than as a pre-requisite class (Complete College America, 2012). Furthermore, the improvement in the students' skills is in keeping with research that suggests the utility of deliberate and ongoing practice (Nist & Holschuh, 2000; Pugh, Pawan, & Antommarchi, 2000) and the importance of ongoing feedback (Skinner, 1953; 1968).

In an increasingly competitive job market, it is crucial that we equip our graduates with all the soft skills a college education is expected to afford them. It is our responsibility as educators to acknowledge the shortcomings of our current education system and envision new ways that we might address them. Our assignment is just one such effort, and we hope that others consider adopting techniques with similar principles.

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