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Currents in Teaching and Learning is a peer-reviewed electronic journal that fosters exchanges among reflective teacher-scholars across the disciplines. Published twice a year, Currents seeks to improve teaching and learning in higher education with short reports on classroom practices as well as longer research, theoretical, or conceptual articles and explorations of issues and challenges facing teachers today. Non-specialist and jargon-free, Currents is addressed to both faculty and graduate students in higher education, teaching in all academic disciplines.

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EDITORIAL

MOVING FORWARD, STAYING CURRENT

—Benjamin D. Jee

I am excited to introduce myself, Benjamin Jee, as the new editor of *Currents in Teaching and Learning*. I am an associate professor of psychology at Worcester State University. My teaching and research interests center around human cognition. I am especially interested in how our scientific understanding of the mind can be leveraged to help people learn. Like many of you, I am passionate about higher education, and am constantly seeking ways to improve my skills and effectiveness as an instructor. When it comes to teaching, there is always something new to learn. So it has been fulfilling to work on a journal whose core mission is to improve teaching and learning in higher education.

Though I am only now making my introduction, it has been almost a year since I took over editorial duties at *Currents*. My predecessor and colleague, Martin Fromm, has been incredibly generous and supportive as I learned the ropes. I aim to uphold the fine quality of the journal that Dr. Fromm maintained throughout his tenure as editor. I am also excited to introduce some changes to the journal that I hope will provide inspiring and practical ideas for instructors. One such change is the addition of a new Brief Report format for articles, which appears in the Call for Papers for volume 13. We will continue to publish longer research reports and theoretical essays, but the brief format offers a venue for communicating teaching-related findings and ideas in a succinct, ready-to-use format.

The past year, as we all know, has been an eventful one, marked by incredible disruption to our lives and our work. Higher education looks very different from a year ago, when we began preparing this issue. Many faculty members and instructors will not be returning to their classrooms for a while. Those who do will be stepping into a very different setting from the one they are used to. Though the articles in this issue were not written in response to our current situation, I hope you agree that they remain relevant and useful. I believe

that this is a product of the journal's commitment to original, accessible, and quality scholarship. Each paper in this issue has been shaped by a process of peer review, through which ideas are critiqued and refined. While this process limits our ability to respond to rapidly unfolding events, it helps to ensure the rigor and durability of the ideas that we publish. I hope that my fellow educators find something in this issue that applies not only to their current challenges, but beyond.

The present issue covers a range of interesting topics. In their article, "In the Age of Fake News: Engendering Dialogue and Critical Media Literacy through Culturally Responsive Teaching," Jason Leggett and Reabeka King-Reilly discuss how instructors can go beyond merely screening out fake news from the classroom and support students' acquisition of crucial information literacy skills. In "Aiming for Inclusivity: Teaching Reading Comprehension in First-Year Composition and Across the Curriculum," Kelsey McNiff discusses how instructors can engage students' cognitive processes and discipline-specific knowledge to enhance their reading. These two papers are complementary, focusing on teaching students *how* to think, rather than *what* to think. In the same vein, Sarah Seeley's paper, "The Remix Pairing: Writing Assignments that Support Instructional Alignment and Student Satisfaction," presents an interesting, iterative approach to writing skill development. By holding constant some elements of a writing assignment, Seeley shows how new skills can be targeted and improved.

Other papers in this issue examine how various structural aspects of a course can influence students' learning and engagement. In "Embedded Tutoring: One Initiative to Help Struggling Students," Amber N. Racchini presents findings that suggest a link between students' use of embedded tutoring opportunities (tutoring offered within or alongside a class) and their course grades. Jessica L. Hartnett and John E. Edlund explored the effects of incorporating critical thinking

Moving Forward, Staying Current *continued*

exercises through online discussion boards. Their paper, “Critical Thinking and Discussion Boards in Undergraduate Research Methods,” reports that these activities could help students’ feel more comfortable when engaging in critical thinking. In ““Lofty Goals” vs. “I just want my degree, dude”: Tailoring Compressed-Length Courses to Generation Z,” Julie M. Holston considers the expectations that students and faculty bring to compressed-length courses. This work sheds light on areas of convergence and divergence, and raises important issues about the suitability of the compressed format for different subject matters and for different generations of students. Finally, Kathryn E. Frazier reviews Peter C. Brown, Henry H. Roediger III, and Mark A. McDaniel’s *Make it Stick*. The book summarizes decades of research on learning and memory in a clear and accessible format, using examples of real-world teaching and learning to flesh out the findings. The review consolidates the main themes of the book, and explores how the ideas could be applied in higher education, specifically.

Altogether, the articles in the current issue cover a range of fascinating issues related to teaching and learning. I thank the authors for their contributions. I am extremely grateful to the reviewers who have dedicated

their time and expertise to this cause. Their names appear in the Contributors section. I am also thankful to my colleagues on the Currents advisory board, who have provided valuable advice and feedback on our plans and progress. I am especially grateful to Linda Larrivee, with whom I have worked most closely to put together the current issue. Dr. Larrivee has been a tireless advocate for the journal throughout its existence, and especially during this time of upheaval. I sincerely appreciate her dedication to the journal, and to the field of teaching and learning more broadly.

As I write this, the team at Currents is working on assembling our next issue, which focuses on “digital pedagogies,” a theme with particular relevance to the present moment in higher education. We are also handling new submissions and working to revamp and improve our website and online archives. I look forward to these future developments, and to sharing new and exciting work on teaching and learning with this growing community of teacher-scholars.

Until next time,

Benjamin D. Jee

ESSAYS

In the Age of Fake News: Engendering Dialogue and Critical Media Literacy through Culturally Responsive Teaching

—Jason Leggett

Department of History, Philosophy and Political Science, Kingsborough Community College/ City University of New York

—Reabeka (Becky) King-Reilly

Bard High School Early College, Kingsborough Community College/ City University of New York

Correspondence concerning this article should be addressed to Jason Michael Leggett,
Email: Jason.leggett@kbcc.cuny.edu

Abstract

In the age of fake news, how can educators manage the influx of misinformation while being responsive to the individual needs of a diverse classroom with access to a vast array of information? This article aligns theories of participatory democracy and pedagogy to describe how educators can facilitate and engender dialogue in response to misinformation. Because classroom environments are collaborative forums where truth claims can be examined and discussed, we draw on culturally responsive teaching and critical media literacy as primary strategies to respond to information analysis in the age of fake news.

Keywords

Information literacy, threshold concepts, politics, fake news, participatory democracy, culturally responsive teaching, critical media literacy

In the Age of Fake News: Engendering Dialogue and Critical Media Literacy through Culturally Responsive Teaching

It is generally agreed that an informed citizenry is necessary for a functioning democracy. There is scarcely a political text that does not assume this oft taken-for-granted natural right and is the basis for foundational texts in American politics. Consider for example: “The merely interested citizen can go on reading the comics and his favorite Western on television...whether or not the myth was reality in Athens probably will never be known” (Dahl, 1961, pp. 280-281). The myth of the concerned, informed citizen as an ideal of democratic government continues today. And yet, there is much disagreement as to what constitutes reliable information and in recent times there has been a cacophony as to what constitutes “fake news.” Perhaps no other politician has used the term more than President Donald Trump but fake news is not a new concept and has a long history in United States politics (Cillizza, 2017).

From the founding of the United States, there has been rigorous and often contentious rancor over what is true in the free press. In Federalist 85, Alexander Hamilton (Rossiter, 2003) provided a defense for a free and vigorous exchange of ideas because he argued there was an enormous difficulty in balancing the many competing

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ideas and interests in a democracy:

the judgments of many must unite in the work; experience must guide their labor; time must bring it to perfection; and the feeling of inconveniences must correct the mistakes which they inevitably fall into their first trials and experiments. (pp. 520-527).

It is all the more important to understand that he makes these remarks after articulating the natural liberty of the press, notwithstanding a bill of rights, in Federalist 84. There were many who were against the national government and were circulating pamphlets and visiting their local places of worship and less reputable social spaces with what Hamilton deemed, “slender pretensions to consistency who can rail at the latter for imperfections which he finds no difficulty in excusing in the former” (p. 521). While we concede that Hamilton commanded a better grasp for the literary than most politicians today, we believe one would agree that fake news is something similar to what he describes as that which “rests merely on the verbal and nominal distinctions, entirely foreign from the substance of the thing” (p. 515). Fake news, as such, has a history and continues to be a drag on democratic progress still today. If the ideals of democracy require an informed, honest, and transparent exchange of ideas, fake news is the tool of those who oppose this ideal.

Given the threat of fake news to inclusive democratic practice how can educators who desire to overcome the challenge of fake news in the classroom utilize democratic theory and teaching practices? In this paper, we believe that a fusion of theories from participatory democracy and critical pedagogy can provide a context that constructs a learning environment focused on dialogue: the judgment of many united in the work over time. We believe dialogue is the only pragmatic tool available capable of overcoming fake news, what we believe to be a claim of information supremacy through the use of monologue.

We are primarily concerned with how information can be used for power (Lukes, 2005), especially the form of power taken as domination over others, and how the classroom can reinforce that process of domination or challenge and redirect it (hooks, 1994). We contend if

educators engender critical media literacies and examine threshold concepts with learners, particularly as it relates to the reliability of information, all members of the classroom environment can develop an understanding of ideology, power, and domination. The classroom setting - how one arranges the classroom, readings, assignments, and discussions - can be seen as a political project for the processes of democratic social change. It is beyond the scope of this paper to present all of the epistemological analysis on this point. For an instructive introduction, Michel Foucault provides a great many insights into the relationship between power and knowledge within historical structures of inequity (Foucault, 1980).

For our purposes, we argue that critical media literacy (Kellner, 2007) is a threshold concept (Meyer & Land, 2003) and that culturally responsive teaching (Ladson-Billings, 1995) is a useful pedagogy to develop dialogical information processing that can facilitate social change. No matter the cultural background, it is impossible to recognize and implement culturally sustaining pedagogies without engaged dialogue with the people who experience and practice culture in their own lives (Paris, 2012). What is more, culturally responsive teaching (CRT) has undergone its own dialogical scrutiny (Aronson and Laughter, 2016) and we agree that discourses of power should be at the center of the discussion about an education in the interest of society as a whole. When we use CRT in this paper, we are talking about the kind of education that considers each learner as a valuable member of the whole, and evoke cultural sustaining pedagogies that support the cultural and linguistic competence of their communities and that provide access to dominant cultural competence (Paris, 2012). We see this approach as necessary when confronting fake news that can be emotionally charged and potentially harmful to the psychology of marginalized experiences that are often overlooked in media narratives and classrooms that maintain the status quo.

Consider the following example, one widely experienced at our institution immediately following the election of Donald Trump.

A student enters the classroom of a U.S. legal system class. The instructor asks students what they are interested in discussing and the student confidently asks, “why are there so many illegals who kill people and

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sell drugs but they get to stay without getting in line like everyone else?” We have observed the reactionary approach to this problem many times in other settings. In many instances the instructor, somewhat baffled, chose to simply ignore the comment and move on to another student. Less often, but on numerous occasions, we have heard instructors ridicule, alienate, and carry on lengthy arguments about what was “wrong” with that student. Rarely, we have witnessed an instructor seize the teachable moment and engage in a dialogue about the source of the information, the logic and illogic of the claims, and construct an experience where those harmed by the comment could articulate their point of view in a free exchange with others. We know from our experience that this is not an easy task and requires a great deal of patience, if not love, to maintain a safe space. Although confronting fake news or misleading information can be frustrating, it is also a key learning opportunity in the practice of democratic dialogue.

If one important goal of higher education is to prepare students for change in anticipation of a world that does not yet exist, it follows that it is also important that democratic teaching and learning develop media literacy skills that focus on building learners’ critical thinking and communication skills. This is crucial in our responses to the news and current events students bring into a classroom because participatory democracy requires students to develop higher expectations for the role of information in deliberation and decision-making in social spheres. It is also important that students are able to develop a critical sense of agency with the information they receive and create to make better choices in their personal and civic roles that affect society at large.

Some educators might accept that fake news is a distraction from more complex ways of knowing and thus critical media literacy (CML) is one necessary skill to move beyond the threshold but wonder why culturally-responsive teaching is a preferred method when confronting misinformation in the classroom. We argue that dialogue is more democratic than monologue and is a foundational element of CRT that confronts domination. While this may seem obvious on its face, it is a thesis often neglected in academic literature (hooks, 1994) and is evidently disdained in popular culture and media coverage of politics. Too often dialogue is misconstrued to mean opposing viewpoints,

the construction of two competing monologues, and this form of inclusion often recreates a dominance of information over other cultural understandings when reinforced by the educator, intentionally or not. In the example provided above, we have witnessed a repeated reduction of the misinformation to be a personal opinion pitted against other opinions in the room. This approach to teaching is neither critical nor culturally responsive. Thus, how to engage and foster dialogue can be much more challenging in the concrete than in the abstract. Our fusion of theories is a unique integration of theory and practice and was the product of our own dialogues, with each other, and with students over several years. In the next section we will further explain this methodological approach and the fusion of these theories. We will then contextualize the problem of fake news within democracy at the theoretical and historical level and move towards the construction of structured learning opportunities within the classroom environment for democratic teaching that emphasizes culturally responsive participation.

An Alignment of Theories is Necessary: An Approach to the Synthesis of Literature

Core conceptual or epistemological premises of general methodological approaches do not determine which specific techniques of data gathering are appropriate, especially regarding quantitative or qualitative data, even though there is substantial connection between different theoretical frameworks for understanding power and the tools chosen to evidence them in any academic study (McCann, 2008). This article is not about which methods of determining fake news are more pure, accurate, or even what should be considered fake news or not. We draw upon multiple definitions of fake news, historical and contemporary, to draw attention to how educators can deal with troubling information and to better “clarify assertions bearing on the truth or falsity of an experience” (Latour, 2013, p. 6) within the structure of the institution of education. In this co-authored paper we are presenting knowledge from two academic traditions: law and society (a subfield of political science) and information literacy (a subfield of education studies). As such, we are naturally drawing from sources that are beyond our individual disciplines and we borrow concepts from anthropology, sociology, philosophy, critical theory, communications, and conceptual ecology. We see this as

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a sort of “intellectual jazz” (McCann, 2008, p.45) or a tapestry of difference that we think forms the foundation of participatory democracy.

We are fusing these concepts in order to present a democratic ideal we both believe is important, in and out of the classroom, for a more equitable social arrangement. Because we believe democracy is better practiced when more people participate, we see the classroom as one location for the study and practice of this ideal. We also believe that because our environment, an urban community college, is becoming more and more diverse, we are well situated to make claims that are more generalizable for the ideals of higher education for democratic thinking at large as information is accessed by students and faculty from a growing array of cultural backgrounds. Over the last decade at Kingsborough Community College, part of the City University of New York, more than half of the students each semester were born outside of the United States and nearly 75% were the first generation in their family to attend college, and yet this diversity has been underrepresented in the scholarly literature about social change (Parker, 2016). It is through our experience with students that we seek to advance theories about democratic practice that begin in the classroom and radiate out into broader communities. We think that threshold concepts provide a lens to view the kind of information processing students bring into the classroom and that CML provides a set of learning outcomes applicable to fake news. CRT is a way of ensuring the structured learning opportunities bridge the natural cultural and civic gap between faculty and students by asking that the educator act as a facilitator. This requires a set of practices that recognize the importance of including students’ cultural references in all aspects of learning (Ladson-Billings, 1994). CRT is student-centered, providing mediated instruction to allow students an opportunity to learn within the context of their own culture and that allows for the sharing and sustaining of multiple cultures in one space.

In many ways, we are expanding the practices of CRT as a way of provoking a broader view of what democracy could look like. In other words, we agree that what happens in the classroom can be a model for larger organizational and discursive practices throughout democratic society (Dewey, 1997). It could be said that in this definition we are building on CML as a foundation

for a more legitimate democratic decision-making process. We acknowledge there are many contested claims as to the definition of democracy and whether an ideal democratic process is possible. Because we are fusing two different academic traditions we must necessarily focus on certain areas of established knowledge and avoid more troublesome, or contested, areas. One such assumption is that the ideal of deliberative democracy is attainable and preferable to a majority or plurality of individuals. This article does not seek to reconcile these claims nor advance a procedural or empirical argument about the relationship between information and democratic practice at the governmental or policy level. Instead, we are writing to educators who believe that deliberative democracy is important and are worried about the rise of misinformation especially as it relates to education for civic engagement or more inclusive politics generally. In the pages that follow we argue that the practical steps can be taken in the classroom and can serve as a foundation for a more inclusive theoretical framework of a broader participatory democracy.

We use the definition of participatory democracy in the critical sense attributed to Jurgen Habermas (1973). Specifically, we reject voting alone as sufficient, or more traditional representative notions of democracy, as the only legitimate form of participation and prefer a meaning that includes equal access to information, engaged dialogue around that information, and the fullest participation in the decision making process as possible. Further, we are making the general observation that fake news can create a polarizing effect in the classroom that is undesirable for most educators who embrace a normative view of deliberation in democracy. Some social scientists have claimed that diversity of opinion and deliberation will produce the best outcome without attending to the qualitative nature of the information (Sunstein, 2007); We believe that this claim is subject to criticism and further study but accept the premise that the diverse viewpoints are already present in our classrooms. As such we believe that all students should get the opportunity to participate in the critique of democratic practices and theory.

CRT and CML highlight the process of deliberative dialogue over specialized areas of content, federalism for example, or general outcomes in a given course, such as the ability to foster critical thinking alone, or evidence

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understanding of causal arguments, and so on. This shift is important for two reasons: 1) in a democracy like the U.S., information is never content-neutral; it is the product of the group who produced it and reflects that groups' construction of value (Collins, 1990); and 2) to engender dialogue, educators cannot occupy a monological position in the classroom, pretending to be neutral or without bias. This does not mean that educators have no role in the fostering of conversation or the transmission of knowledge/content (Wlodkowski & Ginsberg, 1995). However, it is important for educators to embrace a position in which the process of constructive dialogue takes priority, allowing students to practice their political voice in a safe space, while also facilitating the interrogation of information and the structured reasoning of truth claims.

In practice, students should be seen as scholars in dialogue with educators and each other to further explore ideas and to ponder big questions. With the advances in media technologies, information is constantly changing in the form of how it is created and disseminated. As prospective scholars, students must also practice collecting and building knowledge from an array of sources. No matter their individual beliefs at the onset of a course, it is necessary for all students to engage in dialogic process versus a monological approach in assessing information over the duration of a semester. Educators who utilize the goal of dialogue using CRT are fostering this kind of shift in information sharing and in beliefs about information. These small moves in learning that contribute to conceptual change (diSessa, 2002) are critical for students who hold on to fake news as a source of identity or express resistance to new information.

We see this transition as threshold learning. Within the context of the individual course, Meyer & Land's (2003) notion of the threshold concept is defined as akin to a portal, opening up a new and previously inaccessible way of thinking about something that represents a transformed way of understanding, or interpreting or viewing something without which the learner cannot progress. Teaching threshold concepts, like the reliability of information, with the CRT goal of fostering dialogue empower students to undergo a transformational experience that shifts and shapes their beliefs with new knowledge. The transformational experiences with threshold concepts should impact students' thinking and

deliberation processes because it employs diverse literacy skills to assess multiple sources of information.

Threshold concepts should not create political alienation or further cynicism by which students develop a sense of apathy and dissatisfaction with the political process (Balmas, 2012). Instead of imposing a set of pre-valued sources in the field (a common approach in textbooks) and then directing students to preferred sources of knowledge, educators should foster critical literacy skills to engage with all types of information, including fake news. This will help students move beyond the threshold and to value new information that challenges their incoming frames of reference.

Kellner (2007) defines CML as a series of communication competencies primarily with the goal of exploring the role of language and communication to define relationships of power and domination. Educators should engender dialogue so that the students can gain an understanding of how power and information are linked. Through this dialogue, they can discover tools to challenge oppression and strengthen democracy. In sum, to develop effective CML skills through CRT, educators can adopt the following learning principles (Hobbs, 2010):

1. Start from Learners' interests;
2. Connect Comprehension and Analysis;
3. Ask Critical Questions and Listen well;
4. Use new ideas to directly support the practice of critical analysis and media consumption;
5. Use collaborative multimedia composition to produce meaningful and authentic communication;
6. Make connections between the classroom and the world.
7. In the following sections we describe the context whereby students bring fake news into the classroom. We do this by presenting fake news as a problem for participatory democracy generally and then presenting that structure as a problem for the classroom. We will draw from our experience with examples to help clarify the relationship between theory and practice. It is our hope that this unique synthesis of theory and practice will provide both a framework and a set of practical tools for use in any discipline or course.

Fake News as a Problem for Participatory

Age of Fake News *continued*

Democracy and a Democratic Model for Dialogical Information Processing

One way of thinking about fake news as a concept is to utilize a typology that distinguishes how it is used. In a recent study, scholars reviewed the explicit use of the term in a variety of academic sources and identified two dimensions: 1) Facticity, the degree to which fake news relies on facts; and 2) Author intent, the degree to which the creator of fake news intends to mislead (Tandoc et al., 2018). This study includes native advertising, propaganda, manipulation, fabrication and news satire and news parody. While the degree to which fake news is intended to deceive is important for those studying what fake news is, we are more concerned with the social construction of reliable information for participatory democracy. Thus, in our view, any information that tends to deceive, no matter to what degree or what purpose, and thereby muddies the waters of decision making in a democracy would be considered fake news. Other studies seem to concede this point regarding social media: the power of fake news lies on how well it can penetrate social spheres. Logically, future studies should focus on the audiences of fake news and the production of information. Our work is such a study at the theoretical and practical levels.

We are concerned, however, with the reduction of social spheres from a dynamic, ontological process to an object separate from the construction of information as this tends to suggest that social spheres could somehow block or avoid fake news. Since the time of this article and within the time frame of our own multi-year study, the reporting of Cambridge Analytica utilizing Facebook to spread targeted fake news should bring attention that fake news is partially constructed within social spheres. This framing and priming effect (Birkland, 2011) has been known by political scientists studying political campaigns and the use of causal stories for quite some time. One of our major goals in this paper is to provide a new contribution to the study of theory and practice of teaching that fuses knowledge from political science and literacy studies. We believe fake news is a problem for educators who engender participatory democracy because it limits the potential for good decision making at all levels.

As the human population and advanced literacy rates

continue to grow, there is a higher demand for a constant supply of fresh news (Love, 2007). Networks caught up in rating battles have resorted to populist strategies to maximize their readership and viewership (Harrington, 2008) by lowering the standards of veracity in order to keep up with the competition (Love, 2007). Mainstream media has become more trivialized, commercialized, and has turned into a spectacle to the detriment of genuine space for engagement and empowerment. The mainstream media's reproduction of a populist agenda, such as the coverage of tweets and rally slogans, normalizes sensationalized reports that have an impact within the social sphere. Thus, traditional dominant media outlets have likely contributed to the winnowing of the classical public deliberative space.

Further, scholars have shown that the mainstream media has lost its historical commitment to independent investigation and verification and is now superseded by sensationalism and generic reporting (Marchi, 2012). Major news outlets have posted disclaimers on their official websites stating that they possess no warranty of fitness, freedom of errors, biases, nor inaccuracies. For example, the LA Times published a doctored image which brought into question the traditional journalistic paradigm of objective journalism with concomitant values of balance, neutrality, and autonomy (Carlson, 2009). These types of reports contribute to the erosion of the ideal of journalists' function as watchdogs to protect the public from government and corporate abuses. Due to budget cuts, news companies are also cutting costs by not hiring qualified journalists. In other cases, journalists who lack the background in a specific discipline, such as science, repeat claims from press releases or quote from them without checking for accuracy (Halper, 2012).

In addition to the shortcomings of the mainstream media's current business practices, the term fake news has become a part of the contemporary vernacular with varied connotations that are rarely challenged. The following are three definitions we find applicable to the context of this article as it relates to the kind of false information educators are most likely to encounter with students. First, political satire resembles news reports appearing in mainstream news (Balmas, 2012). It highlights inconsistencies in political rhetoric and satirizes the norms governing news media through ironic inversions of the daily news. It is the most educational

Age of Fake News *continued*

and engaging form of fake news because the satire delves into the deeper attitudes of the political world.

Second, Video News Reports (VNRs) are news segments bought and paid for by the very subject of that report (Farsetta, 2006). VNRs are marketing or other persuasive messages disguised as the journalist's own reporting. The journalist's workload reflects a growing trend where there is an overall decrease in original reporting and an increase in repeating second-hand material without editorial oversight. Producers of VNRs pay integration fees and when VNRs are not disclosed as paid sponsors, ethical codes are violated related to transparency and consumers' rights to be informed by whom they are being persuaded; However, the Federal Communications Commission does not require that the sources of VNRs be identified if they are free of charge and do not involve explicit political matters (Nelson, 2009). Many people believe that journalism is supposed to be a third force, independent from both government and big business (McChesney 2012), but there is an obvious collusion of these interests with the practice of VNRs.

Finally, there is news that is presented as facts but without any actual factual basis (Allcott & Gentzkow, 2017). There is mounting evidence that the impact of this particular kind of fake news, misinformation or intentionally wrong information, has impacted our civic discourse (Gannon, 2017). Fake news that is presented as facts has political influence (Allcott & Gentzkow, 2017, p. 5), especially in the form of social media, as those networks enable the community building process in which users can freely produce and consume content (Behesti-Kashi, 2013). News consumed through social media is problematic and difficult because fake news is easily "viral" when well-produced with special effects and persuasive language. Consumers of fake news can be easily fooled by headlines presented as factual when posted on one site and then reposted over and over because this production mirrors news media sources (Halper, 2012; Gannon, 2017).

Kindred to fake news are conspiracy theories, which are not necessarily false but are unofficial accounts of events unreported by the dominant mainstream press. Most people who believe in conspiracy theories are presumed to be disenfranchised or disadvantaged members of the

population; However, conspiracy theories have reached broader audiences (Moulding, 2016) largely because the influx of online and print journalism that explicitly calls into question the validity of official explanations and then are disseminated by mainstream news outlets.

These Conspiracy theories gain momentum when society faces uncertain times and they are likely to flourish in times of societal turmoil (Van Prooijen, 759). Since the 2016 U.S. Presidential Election, every report and allegation reported by mainstream news has been labeled as fake news by Donald Trump, and this is one clear attempt to perpetuate conspiracy theories that lead to fake news more broadly. It is often argued that political leaders have an increased responsibility to instill a sense of trust among the public and to overtly display signs of moral behavior (VanProoijen, 2015). However, Mr. Trump has gained the trust of his constituents, who have lost faith in such a system, and has repeatedly complained about the illegitimacy of the election of Barack Obama, the rise of the opioid crisis as a coordinated effort, and other distortions of mainstream news media. What is more, Mr. Trump's ongoing populist rhetoric, more specifically his "Make America Great Again" slogan, is an expression of his ability to bond with his most insecure and discontented supporters which enables the scapegoating of more tangible enemies. These "enemies" are most often depicted as democrats, liberals, people of color, undocumented immigrants, victims of sexual assault, and a list that seems to grow weekly. The combination of conspiracy and fake news unites to tell a causal narrative that blames these groups for America's problems and their individual/ collective social malaise. The use of these rhetorical symbols emphasizes a causal story, describing a problem and then attempting to present a viable solution, but not necessarily with any evidence (Stone, 1989).

On the other hand, marginalized and systemically disadvantaged groups are no longer the only groups to hold strong beliefs in conspiracy theories as the mainstream population now routinely engages with these stories (Goertzel, 1994). The broader public is now empowered to gather news in alternative ways largely due to shared sentiments of low levels of credibility in the mainstream news, due to cultural, generation and racial disconnect (Marchi, 2012). Knowledge is no longer carefully wrapped by experts (Harrington, 2008).

Age of Fake News *continued*

The dissemination of fake news online, specifically social media, is a reflection of how the hierarchical organization and production of news have shifted the power, agency, spatiality, and temporality of information to new social groups with the changes in the economic, social and cultural conditions of new media (Sumiala, 2013). The news is now regularly produced by those who would not be traditionally considered journalists (Harrington, 2008). Global journalism is now an unlimited supply of news and is accessible 24 hours per day and every day of the year (Sumiala, 2013). This increase of both content and access has furthered the spread of credible information on the one hand but has also issued in the age of fake news on the other.

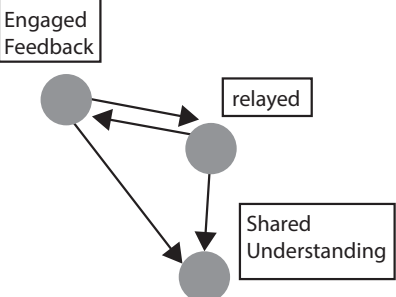
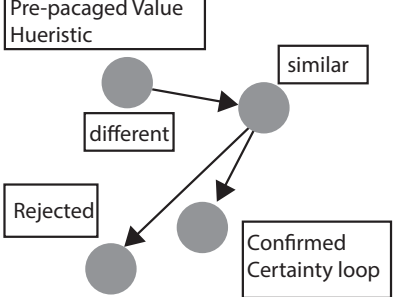
The impact of fake news has an adverse effect on our civic discourse because the misinformed citizen is the death of participatory democracy. Fake news has created fundamental changes in political communication because the boundary between serious and entertaining discourse has been blurred, placing politics—decision-making in the public interest—squarely at the center of new debates about the function and value of entertainment in civic culture over serious inquiry (Reilly, 2012). Participatory democracy is threatened by the ease at which disinformation about civic issues is allowed to spread and flourish (Herold, 2016). Historically, the Court had limited this kind of information in the traditional political sense of free speech as information that presents a clear and imminent danger (*Schenck v. United States*, 1919). In the 21st Century, the free press has become the internet where citizens can access information that affirms their beliefs, providing them with the freedom to think as they please, often only in the form of entertainment.

Students now enter the classroom with this power to control when and where they retrieve information. They have the power to disseminate information, contribute or produce, and comment on the information and news they receive in real

time. The news is available from the micro-local level, community or block association social media sites and blogs, and the macro-global level including major discussion boards targeting a specific niche topic catering to broader audiences. The fact is that we are in the age of ubiquitous computing where our entire environment is becoming increasingly technological (Huybrechts, 2008). The “people” are determining the media discourse through the rise of grassroots and civilian journalism and the absence of a clear, reliable and authoritative source makes sharing reliable information a challenge.

Depending on how students’ social networks are structured, virtually and physically, and how instructors structure their classroom environments, information can be influential, resisted, or rejected outright. The implications are laid out as two opposing models for processing incoming information. The dialogical information model involves a network that is exposed to many points of view and is thus skeptical about causal stories and pre-packaged solutions to ambiguous problems. The monological model involves a pre-packaged problem and solution in the form of a causal story shared by the network like the Trump narrative provided above. The key difference is that in a dialogical

Table 1. Dialogical and Monological Information Models

Dialogical Information Model		Monological Information Model	
New Media	Info-Skeptic Falsifiable Peer Review, Bias Assumption, Shared Reception	New Media	Info-Certain infallible, Peer Confirmed Withheld, Lies, Exaggerated Sensation
Engaged Feedback		Pre-packaged Value Hueristic	
Elements Restated, Relayed (Shared) Engaged, Feedback (Dialogue) Understanding, Shared (Multiple Points of View)		Elements Pre-packaged Value (Heuristic) Similar, Different (Monologue) Confirmed, Certainty (Binary Points of View)	

Age of Fake News *continued*

model there is an engaged feedback process that leads to a new shared understanding. In the monological model, any new information that deviates from the network leaders' causal story is resisted or rejected outright, without any consideration of merit. The engaged feedback mechanism is lacking because the information processor creates a binary, similar or different, as opposed to a pluralistic model of information that seeks out difference. In order for educators to overcome this growing trend toward the monological model, it is important to create a structured environment that promotes multiple points of view, including the learner who holds a monological point of view towards information and engage in ongoing dialogue (Table 1¹).

When we consider the implications of monological information processing in media and aggregate behavior in social networks, one obvious factor is age and the preference for digital sources of media. In spite of these generational differences, a paradigm shift that utilizes both CML and CRT requires that we do not “overlook ways that various subpopulations engage on issues of special concern to them and overlook certain positive trends in our students’ engagement” (Bennett, 2012, p. 4). Educators must work toward the ideals of participatory democracy that recognizes a community in the making and encourages students to expand their role beyond static consumers. This requires educators to construct a learning space that challenges students to be the producers and disseminators of more empirically grounded news that recognizes authenticity based on first-hand witnessing and pluralistic meanings (Sumiala, 329). Utilizing CRT and CML, educators can create a learning environment where students can start from the learner’s interests, connected to comprehension and analysis skill practices, while also engaging with practical tools of information production. This approach is more likely to help students engage with their previous reliance on monological information processing without alienating and forcing political beliefs that undermine their personal and cultural belief systems. We suggest CRT strategies to foster CML to encourage students to habitually scrutinize and become skeptical about truth claims in the media and encourage approaches that allow students to express their views yet shape their thought process and engage with their belief systems as scholars. This approach helps build a more informed public and

promotes participatory democracy from the ground up. We provide practical tools for educators based in CML and CRT in the next section.

Fake News: Problem for Democratic Classrooms and Application of the Dialogical Model

With the fusion of CML and CRT for participatory democratic practice students can develop sophisticated critiques of mainstream approaches with a variety of critical literacies: information literacy, technical literacy, multimodal literacy, and other mediums with the utilization of technology as a tool for empowerment. Instead of seeing digital information in one-way, static terms, students can become critical consumers of information by researching, planning and making their own media messages (Herold, 2016). One practical tool is to utilize threshold concepts literature from the first day of class. Educators should prompt the students to ask key questions about media generally, compare competing claims held by students within the classroom, and assess the credibility of these claims and to reflect on one’s own process of reasoning. Basic abilities include fake-news-detections based on veracity assessment methods by analyzing linguistic cues and online social networking behavior (Conroy, 2015) and greater insight into the objectives of the content creators and disseminators. By viewing CML as threshold learning, educators are better able to redefine the classroom experience as an opportunity for dialogue rather than memorizing a monologue directed by the educator. This approach also addresses the point made by Tandoc, et al. (2018) that the impact of the fake news depends on the audience.

Many educators might agree that fostering dialogue is important for democratic thinking and teaching but wonder how students will be able to grapple with the wide array of information that is misleading or false. We think the most practical solution would be to encourage students to develop the basic competencies for understanding the discipline where the course is located, not so much as experts, but in order to develop the literacy skills to support their growth as lifelong learners who are consistently exposed to diverse sources in the age of rampant information. In this way, students are best able to manage the influx of information that reaches beyond the individual course or major. There is literature

¹ I am indebted to the analysis of Siegal (2013) of media networks to construct this model.

Age of Fake News *continued*

in conceptual ecology that supports this approach to threshold learning and the process of identifying core competencies should be left to the educator within their own discipline (diSessa, 2002). However, the course concepts should be placed within a larger effort to increase CML by fostering a critical stance toward information more generally. This could be a challenge for educators who are wed to the textbook and PowerPoint lecture approaches, each a form of monological information processing, and these approaches are most likely to reinforce the thought leader approach in closed social networks.

In this article, we presented two competing information sharing systems: a monological information sharing system that reinforces known facts and beliefs and a dialogical system that integrates new, often contradictory points of view, through the use of a feedback mechanism. In participatory democracy, it is critical that dialogical information systems are developed, maintained, and nurtured as a process of social construction. Likewise, in a democratic classroom, there are monological and dialogical belief systems that are socially constructed even if the educator is not aware of the process at first. We differentiate these two in the table below with a reminder that to foster CML and CRT, a dialogical belief system must be co-constructed with students (Table 2).

Table 2. Dialogical and Monological Belief Systems

Dialogical Belief Systems	Monological Belief Systems
Engage in dialogue with their context.	Speaks only to themselves, ignoring their context - in shallow respects.
Includes extensive factual evidence and details that are testable.	Each belief serves as evidence for each of the other beliefs.
Can be debunked, but the dialogue is ongoing.	They do not search for facts - rely on untestable suppositions and abstract principles.

Finally, educators need to frame and address information literacy as an important value because faculty are struggling to keep up with the rapidly-evolving digital landscape (Gannon, 2017). This challenge can reinforce the inauthentic feeling students encounter in monological teaching environments. If the information in a course is presented as if it is merely the opinion

of the educator, students that believe in the credibility of the information from their own social network will strongly resist or reject that new information.

For example, in our own practice we structured learning opportunities for students that evidenced a belief in the kind of fake news we identified at the beginning of this article. In the first few weeks of the semester we had students first express their points of view about immigration, law, policy, and citizenship. We then had students collect information without guiding or critiquing their sources. For several weeks students participated in small group discussions, where they chose a theme from the points of view listed above, and discussed the source of their information, why they thought it was reliable, and we then presented this data onto the white board, and a spreadsheet, to analyze the credibility of the information against legal cases. While students did not always change their mind about what they thought immigration policy should be, they were given the opportunity to see how the information they were relying on would be used or dismissed in the formal process of evidentiary rules of law. This allowed students to re-frame their knowledge, with guided organizational schemes and tools, to form an argument for their position while recognizing other points of view. The feedback process throughout the course helped students, even the most devoted to known fake news sources, to seek out other information to strengthen their beliefs. This often led to a softening of rhetoric and greater dialogue. In fact, several students who were “loners” were seen in the final weeks working on their final briefs with students whom they knew to hold different positions. This kind of shifting is ideal for participatory democracy and deliberative decision-making.

We believe literacy instruction needs to change and that this movement must come from both the top and bottom: educational professionals and the students together. Literacy must be reframed to expand the definition of text to include new modes of communication and popular culture to enhance our critical analytical processes to explore audience reception (Kellner, 2007). We think the most practical way to respect this kind of instruction is to include a variety of forms including videos, audio podcasts, weblogs, and more. We had a lot of success with students moving over the threshold this way. One group actually created a documentary video using clips

Age of Fake News *continued*

from YouTube about immigration and another group used this work to create a survey about immigration laws they conducted in the cafeteria. By shifting away from text-only instruction, students felt empowered to use digital technology outside of the classroom to produce information.

We see the need for this literacy shift as mirroring the same media shift in society at large. Critical media pedagogy is imperative for participatory democracy (Kellner, 2007) because information is a cornerstone of effective democratic participation and government accountability. Media literacy is the ability to access, analyze, evaluate and create information using multiple forms of communication with the larger goal of creating informed and responsible citizens (Herold, 2016). Students must learn to gauge the reliability and trustworthiness of online information with strategies to spot misinformation. Instead of ignoring certain types of media information, educators should develop news media literacy skills that focus on building learners' critical thinking and communication skills in responding to news and current events, so that students will have higher expectations for journalism (Hobbs, 2010) and the role of news in a participatory democracy.

Conclusion: Higher Education Can Do More for Participatory Democracy

In this paper we have presented a unique fusion of theories from participatory democracy and literacy education practices. We argued that educators can practically engender CML and examine threshold concepts with learners particularly as it relates to new and unreliable information. We believe this integration of CML and CRT recognizes that all members of the classroom environment can develop an understanding of ideology, power, and domination. There is a shift in the paradigm of citizen engagement (Bennett, 2), where particularly the younger adult generation has adopted civic behaviors incompatible with the current paradigm imposed by educators. Managed environments feel inauthentic and irrelevant; Whereas, a good citizen facilitates their participation in the political public sphere through the co-production of knowledge. Therefore, it is necessary to adopt a pedagogical approach to bridge these two paradigms in order to better motivate and inform all of these actors within the educational setting.

We provided a theoretical framework and practical tools for this kind of ideal classroom environment.

The classroom setting should provide an opportunity for both educators and students to learn more about their citizenship and communication preferences and how to engage each other in dialogue. The discussions and activities should be geared towards learning how generational social identities and political preference formation change and vary amongst individuals and across time. In other words, the classroom should serve as a laboratory to qualify and deconstruct different truth claims to foster democratic discourse.

Many educators would agree that the general framework presented is a preferred *modus operandi* of instruction but wonder how to maintain this ideal in the face of rampant misleading information and the increased diversity of student populations. In response, we have maintained that it is critical that the original foundations of CRT are recognized regardless of changes in terminology or the alternative uses of this pedagogy in the academic literature: a respect for the beliefs of everyone in the room is what begins to create a sustainable environment through dialogue. Educators should aim to become acquainted with students' belief systems or work with their belief systems to encourage further inquiry and ongoing dialogue. This developed skill requires the educator to commit to dialogue as a necessary learning outcome. CML and CRT can be integrated in such a way that moves higher education closer to the ideals of participatory democracy and challenges domination and power based in the supremacy of knowledge claims.

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ESSAYS

Aiming for Inclusivity: Teaching Reading Comprehension in First-Year Composition and Across the Curriculum

—Kelsey McNiff

Department of English, Endicott College

Correspondence concerning this article should be addressed to Kelsey McNiff,
Email: kmcniff@endicott.edu.

Abstract

Faculty see it, and studies confirm it: students entering college often struggle with the readings they are required to complete. While there is a valuable and growing conversation about the need to develop students' critical reading abilities in first-year composition and across the curriculum, current research continues to overlook the need to address student reading comprehension as well. This article argues that taking time to teach reading comprehension is essential to developing an inclusive pedagogy, one that accounts for the diversity of learners in our classrooms and seeks to provide equal access to learning. It also aims to serve as a resource for instructors who may want to address reading comprehension but are unsure how to go about it. To this end, it describes how research in cognitive science and educational psychology can inform practical, learner-centered teaching strategies that support student reading comprehension and build student awareness of their reading practices.

Keywords:

college reading, reading comprehension, inclusive pedagogy

Aiming for Inclusivity: Teaching Reading Comprehension in First-Year Composition and Across the Curriculum

Drawing attention to the limited critical reading skills of high school students, Horning (2007) has called upon college faculty to give reading instruction a more central place in the undergraduate curriculum so that graduates of our institutions “will be better readers, writers, students, and citizens of the democratic and electronically connected global society they will join when they graduate” (p. 2). Similarly, Jolliffe (2007) has encouraged faculty to embrace how first year composition courses can introduce students to critically engaging a range of texts and, in doing so, prepare them for the kinds of reading they will encounter in college courses. Pushing back against the assumption that reading is something “others” should be responsible for teaching, Jolliffe claims that if we take seriously our mission as educators to serve all students and to improve student literacy, “you teach the students you have in front of you. You teach them what you think they ought to know no matter what you think they ought to have ‘mastered’ before they got to you” (2007, p. 473).

There has been a growing conversation about the need to teach reading in the first-year composition classroom and across the curriculum (Bazerman, 1980; Bialostosky, 2006; Carillo, 2015, 2017a; Ettari & Easterling, 2002; Helmers, 2003; Horning, 2017a; Horning & Kraemer, 2013; Lindemann, 1993; Scholes, 2002; Sullivan et al., 2017), and many authors have made the case along with Horning and Jolliffe that this instruction should focus on critical reading in particular. To this end, colleagues

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have shared strategies for developing students' "mindful" reading skills (Carillo, 2009, 2015, 2016, 2017a, 2017b), for promoting students' active engagement with texts and related metacognitive reflection (Goldschmidt, 2010; Jolliffe, 2007; Morrow, 1997; Salvatori, 1996), for using model texts to teach writing elements (Bunn, 2013), and for practicing rhetorical reading (Downs, 2010). Some have analyzed expert reading techniques in the disciplines to consider how these findings might inform critical reading instruction (Horning, 2017b; Shanahan et al., 2011), while others have trained their gaze on student reading practices and their connection to the proliferation of new media in contemporary culture, trying to understand the kinds of texts students read on their own, how they read in those contexts, and how we might better interest students in course readings through the classroom dynamics we cultivate and the kinds of readings we assign (Brost & Bradley, 2006; Hoeft, 2012; Jolliffe & Harl, 2008; Keller, 2014).

Taken together, this scholarship has added to our collective teaching repertoires by providing practical pedagogical strategies to develop students' critical reading skills and help them actively engage with, think critically about, and say something back to other authors' texts. Certainly, this *should* be the goal of reading instruction in the first-year composition classroom and beyond. Research shows that these kinds of critical thinking and metacognitive skills – questioning, inferring, evaluating, analyzing, self-monitoring, considering consequences, drawing conclusions, etc. – are in fact the crucial habits of mind mastered by effective readers (Carraway, 2014; Daniels & Zemelman, 2004).

However, these critical reading strategies rely on students being proficient in reading comprehension, and at least in my own teaching practice, I have found that I cannot actually take students' reading comprehension for granted. Rather, when I answer the question, "How do we move our students from start to finish?" (Jolliffe, 2007, p. 480), I return again and again to the challenge of reading comprehension, for without a core understanding of *what* they read – of the ideas or information the author seeks to communicate – my students will not be able to meaningfully or productively engage in any of the critical reading practices I seek to teach them. Yet while Jolliffe (2007) has rightly suggested that in college as well as high school the assumption that students can

be assigned a text and will read and understand it are gone, there continues to be a lack of attention to the issue of reading comprehension in the scholarship on the role of reading and reading instruction in the first-year composition classroom and in the undergraduate curriculum more broadly.

Studies suggest that the challenges many of my students face with regard to reading comprehension reflect a national trend in both two-year and four-year institutions. At community colleges, over two-thirds of students are placed in remedial reading and/or math courses (Schoenbach et al., 2012), and at four-year colleges, approximately fifty percent of students are considered unprepared for the reading tasks they will be expected to complete (ACT, 2018; Schoenbach et al., 2012). In addition, limited reading comprehension has a direct impact on students' broader academic success across the curriculum. As Schoenbach et al. (2012) have explained, "when students have difficulty reading and understanding subject area texts, they hit a 'literacy ceiling' that limits what they can achieve both in the classroom and in their lives outside of school. Naturally, the literacy ceiling also limits what teachers can achieve in their classrooms" (p. 5). This dynamic is no less true when students arrive in college, where readings are used to deliver content, assess student learning, and ground research inquiry across the disciplines.

Taking class time to model and guide first-year students through processes designed to support reading comprehension is therefore essential to developing an inclusive teaching practice, one that accounts for the diversity of learners in our classrooms. Colleges serve an increasingly diverse student demographic, not only in terms of race, ethnicity, age, and socio-economic status, but also in terms of "intellectual diversity" (Sparapani, 2013, p. xvii). The National Center for Learning Disabilities reported that in the 2015-16 academic year, 20% of school-age children struggled with "learning and attention issues" (Horowitz et al., 2017), and there are growing numbers of students with disabilities enrolling in higher education; that same year, 19.4% of undergraduates reported having a disability (U.S. Department of Education), a number up from 9.8% in 1998 (McGuire & Scott, 2006). If we as undergraduate educators take seriously the need to "provide all individuals with fair and equal opportunities to learn"

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(Rose & Gravel, 2009, p. 6), we should reflect critically on how our teaching practices can better address reading comprehension in order to better support all students as they transition to college reading and writing, and to upper-level work in the disciplines.

Of course, to claim that we should teach reading comprehension may be easier said than done. First, reading comprehension, which I will define as “the process of extracting and constructing meaning through interaction and involvement with written language” (Sweet & Snow, 2002, p. 24), is itself a complex process that is often misunderstood. Being able to technically read words on a page does not mean that students will “extract” or “construct” meaning from them. Rather, reading comprehension depends on a range of cognitive functions, personal engagement, and socio-cultural knowledge that enables readers to take away meaning from what they read in ways that are relevant to the specific contexts in which they are reading.

In addition, there are the challenges of instructor motivation and self-efficacy when it comes to teaching reading. Even faculty who see the need for ongoing student reading instruction may find the prospect of providing it themselves to be daunting. Keller (2014) has observed that many composition instructors “lack the pedagogical theory and practice with which to assist students with their reading” since the topic is not central to discussions in the field (p. 19), and faculty across the disciplines may believe that “teaching reading is incompatible with teaching content, that reading instruction is specialized beyond the average teacher’s capabilities, that improving students’ reading is someone else’s job” (Braunger et al., 2005, p. 47). In other words, it’s not what we have been trained to do, and it’s not immediately apparent that reading instruction is either manageable or compatible with our primary teaching objectives.

Certainly, there are aspects of reading instruction that are beyond the bounds of our individual courses. As experts in history, literature, psychology, composition, chemistry, or business management, we are not equipped to address student struggles with phonemic awareness, decoding, fluency, or memory, for example, and it would not be appropriate to see those areas as part of our teaching mandate. However, when we recognize that students’ ability to comprehend texts in our courses

requires them to have not only the “skill and the will to read” (Block et al., 2002, p. 7) but also the ability to “access and employ the complex ways of reading that each discipline requires” (Braunger et. al., 2005, p. 13), we can see that each of us has a particular opportunity and responsibility to “embed literacy instruction” into our teaching (Braunger et. al., 2005, p. 15).

In the pages that follow, I suggest practical, research-based instructional strategies that we can incorporate into our teaching to promote student reading comprehension. These strategies do not require specialized knowledge and need not compromise our emphasis on critical reading skills or disciplinary content. They do, however, require a willingness on our part to see reading instruction as part of our job, and to embrace our unique ability to support students as they become more effective readers of texts in our fields. In sharing these strategies, I seek to generate conversation about the value of teaching reading comprehension in college classrooms as well as to provide a resource for faculty members in first-year composition and across the curriculum who “ask for more explicit guidance with reading pedagogy” (Adler-Kassner & Estrem, 2007, p. 36) and with reading comprehension pedagogy in particular.

Take on a learner-centered perspective

When I first began teaching full-time after graduate school, it didn’t occur to me that I should do much of anything to introduce a course reading beyond noting the due date and making sure students knew where to find it. To be fair, this practice was how readings were assigned to me throughout my education. When I realized students needed more context for readings, I began saving the last five minutes of class (sometimes less, if another activity had run over) to introduce a text. I would provide a brief overview of the issue or question at hand, maybe mention the author’s research interests, and perhaps introduce the key terms underpinning the author’s argument, which I might ask students to keep an eye out for and define in preparation for our class discussion. At the time, I thought that mentioning this information was sufficient to set my students up to complete a reading. And, to be honest, I was reluctant to take any more of my already limited class time to set up a short reading assignment.

While I was making a conscious effort to frame

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course readings in those years, I wasn't doing much of anything to help activate *my students'* engagement and inquiry. Rather, I was transmitting my own knowledge, imparting information that I assumed students would simply absorb and connect to a reading as they completed it. In contrast, learner-centered education (LCE) begins with articulating clear learning objectives and then working backwards to design or adjust our curricula to facilitate student learning, all the while accounting for the diversity of learners in our classrooms (Harrison, 2006). With a learner-centered perspective, instructors focus their attention "on what the student is learning, how the student is learning, the conditions under which the student is learning, whether the student is retaining and applying the learning, and how current learning positions the student for future learning" (Weimer, 2002, as cited in Harrison, 2006, p. 153).

In terms of reading comprehension, taking a learner-centered perspective requires us to first become more aware of the complexity of the reading comprehension process itself. Sweet and Snow (2002) break down the reading comprehension process into "three dimensions: the reader, the text, and the activity" (p. 24), noting that no one of these dimensions "operates independent of the other two in any authentic act of comprehension" (p. 29). For students to comprehend texts, they not only need phonological awareness, which enables them to decode words, but also reading fluency, sustained interest and attention, motivation, long and short-term memory, prior knowledge, visualization skills, self-regulation, and metacognition (Carraway, 2014; Sweet & Snow, 2002).

Because these cognitive and personal factors are interconnected, a limitation in one area impacts the student's overall ability to comprehend a text. For example, a student who has broad knowledge about the world and an interest in completing a reading task but who lacks fluency may have a hard time with comprehension. When students read haltingly, struggling with word identification or decoding, their minds need to focus on that task, and since this effort requires the attention of their working memory, it can make it hard for them to simultaneously hold the ideas of the previous sentences or paragraphs in mind as they work to read each new sentence. In contrast, a student who is a fluent reader, but who lacks motivation, who has other anxieties on their mind, or who dislikes the topic at hand may have limited comprehension due to a lack of attention,

interest, or persistence (Carraway, 2014).

Moreover, research shows that "texts characteristics must match reader knowledge and abilities for optimal comprehension to occur" (Sweet & Snow, 2002, p. 27). Even expert readers can identify with the difficulty of trying to make sense of jargon from a discipline other than their own, and one can imagine the feeling of struggle a student reader might experience if they lack the knowledge necessary to access the vocabulary or context cues in a text. If that student also has as a limited sense of self-efficacy, this feeling might spiral to lower the student's persistence or create negative associations with reading in the class.

Finally, the activity of reading – the act itself, the purpose behind it, and the context(s) in which it occurs – contributes to comprehension as well (Sweet & Snow, 2002). In undergraduate education, the disciplinary context for reading and that discipline's culture of reading are essential to reading comprehension, but this disciplinary knowledge may not be visible to or shared by a student reader. Thus, taking on a learner-centered perspective requires stepping outside of ourselves to recognize the assumptions we might have about reading, consider the challenges students might face in comprehending the readings we assign, assess the range of individual reading abilities in our classrooms, and make instructional choices informed by an awareness of the complexity of the reading comprehension process.

For many of us, best-practices related to teaching in our fields are already learner-centered. In composition, for example, we reverse-engineer writing assignments, we scaffold instruction, and we train instructors to guide students through a deliberate writing process involving critical inquiry, idea development, drafting, and revision. At various points in this process, we make space for students to engage in conversation and metacognitive reflection about their writing and about writing strategies with their peers and instructors. We can apply these same kinds of learner-centered strategies to our reading pedagogy by articulating learning objectives related to reading in our courses, offering structured reading-related instruction, and providing regular opportunities for students to reflect on their reading practices. For, while reading comprehension itself is quite complex, there are straightforward, learner-centered strategies we can incorporate into our teaching that will support students in this process and help them become increasingly

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aware of and proficient in applying their reading-related knowledge in varied contexts (Carillo, 2017a).

Model how to activate prior knowledge

Research in reading and cognition consistently shows that the most important determinant of reading comprehension across subject areas is not the mastery of specific skills, but the reader's prior knowledge of the issue or topic at hand. As Willingham (2017) put it, "current education practices show that reading comprehension is misunderstood. It's treated like a general skill that can be applied with equal success to all texts. Rather, comprehension is intimately intertwined with knowledge." Knowing that prior knowledge is central to comprehension has direct implications for our teaching. As Daniels and Zemelman (2004) have explained:

If we understand that reading is not just "receiving a message," but actively building meaning upon prior knowledge using staged, strategic thinking, then we will teach differently. Instead of saying "Read this for Friday" and popping out a quiz on the appointed day, we will first provide pre-reading activities that help kids activate their thinking, get ready for new vocabulary, and start making predictions about the text. Knowing that prior knowledge is the strongest determinant of understanding, and that new knowledge can only be built upon existing knowledge, we know better where to begin – with students' conceptions and misconceptions about our subject, whatever they are, and with connections to ideas that the kids *do* know about within their own experience. We will work harder to activate, develop, build upon, shape, and add to our students' prior knowledge. (p. 31)

Daniels and Zemelman thus encourage us to consider how the process of constructing meaning begins with activating prior knowledge and continues through critical reflection, and to therefore pay more attention to how we can guide students through a structured process of "staged, strategic thinking" to promote reading comprehension.

This recommendation aligns with research on knowledge transfer, which shows that students usually do not make connections to prior knowledge on their own,

especially if that prior learning occurred in a different context (Bransford, et al., 2000; Nelms & Dively, 2007; Perkins & Salomon, 1988; Yancey et al., 2014). Thus, teaching strategies that aim to facilitate the "abstraction and connection-making" necessary to identify, recall, and apply prior knowledge in a new situation (Perkins & Salomon, 1988, p. 28) are also relevant to helping students activate prior learning to support reading comprehension.

Considering Daniels and Zemelman's claim that "approaching any given reading, they [students] may actually have some good prior to knowledge to build on, a usable schema to attach that information to, **but they don't activate it** – with the result that they do not understand or remember the material" (2004, p. 26), the first significant strategy we can use to support student reading comprehension is to help students "activate" prior knowledge. Before handing out a reading, we can share this research on reading comprehension with our students and take time to think together about what we already know about the topic at hand, whether through an instructor-facilitated full group discussion, or through a think-pair-share activity. For example, in a first-year composition course where students are preparing to read Kate Crawford's "Artificial Intelligence's White Guy Problem," the instructor might begin by asking students what they already know about artificial intelligence technology and its uses, as well as about related debates, whether in terms of existential fears of robots taking jobs, concerns about privacy rights, or issues of equity and inclusion.

Recalling prior knowledge might also focus on disciplinary or theoretical concepts that are essential to comprehending a text. Take for example an architecture professor who has assigned James Young's article, "Memory and Counter-Memory: The End of the Monument in Germany" (1999), in which Young examines contemporary German artists' efforts to memorialize the Holocaust through "counter-monuments." Depending on the course context, the professor might prompt students to reflect on their own experiences of monuments and memorials, their designs, what they communicated, and what students may assume about the cultural function of memorials more broadly; the professor could also prompt students to recall what they know about the Holocaust and to

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reflect on the specific challenges of memorializing this history, and of memorializing it in Germany in particular. In addition, the professor might anticipate how student misconceptions of the term “modern” could present a roadblock to comprehension and could work with students to define the term in relation to modern art and modernity, as Young uses it, so they will be better prepared to comprehend the central concepts upon which Young’s discussion rests.

Such strategies are relevant to supporting comprehension of textbook readings as well. Consider a biology professor who has assigned a textbook chapter on cell structure in *Principles of Life* (Hillis et al., 2019) prior to a lecture on the topic. At the end of the class before students read the chapter, the professor could help students activate their memory by facilitating a brief discussion in which students brainstorm what they learned about cell structure in high school. As part of this activity, the professor could also identify and draw students’ attention to possible misconceptions, such as the idea that all cells have a nucleus.

Although some might worry that having students begin by focusing on what they already know (or think they know) about the topic could lead to confirmation bias, I would suggest that having students recall prior knowledge, including articulating misconceptions, actually helps address this reading pitfall. Research shows that learners must become aware of and consciously lower the status of a misconception in order for conceptual change to occur (Pintrich et al., 1993). If comprehending a text requires revising a misconception, it is preferable to make students aware of those misconceptions, reflect on where they came from, and begin to consider their limitations prior to reading. Thus, if instructors notice students stating misinformation, making a generalization, expressing bias, or voicing a problematic assumption about the issue at hand in advance of reading a text, we have an opportunity to intervene and redirect. A student’s generalization about an issue could be reframed as a hypothesis which may or may not be confirmed by the text; a student’s assumption could be discussed further to identify the values or prior experiences that underpin it, which may or may not be shared by the author.

In sum, when we mediate student efforts to recall

relevant prior knowledge, we facilitate comprehension by helping them activate their memory and identify possible misconceptions. Such activities also help students identify a lack of prior knowledge, in which case we can prompt them to ask questions, look up unfamiliar words, engage in discussion with peers, or conduct basic internet searches to familiarize themselves with the relevant issues or concepts at hand. Recognizing students’ “absent prior knowledge” (Robertson et al., 2012) also helps faculty take on a learner-centered perspective because when we can identify what students may not yet know about the topic, we have an opportunity to address those key areas that we, as the experts in the discipline, know are essential to comprehending the text at hand.

Finally, if we also incorporate a metacognitive component into subsequent discussions of these readings, students can reflect on the value of having activated prior knowledge before reading. This recognition might enhance their motivation to engage in a similar process when sitting down to read future texts. As the semester progresses, we can encourage students to continue these practices of recalling prior knowledge independently as the first step of completing a reading assignment.

Practice putting texts (and acts of reading) in context

When we recall our prior knowledge on a topic, we begin the work of putting texts in context because we help students connect the reading to relevant schema. However, we also need to help our students understand how every text is created in a specific context, in an actual moment in time by an actual person whose world view, experiences, or motivations may be quite different than their own. To this end, Scholes (2002) has encouraged instructors to help students learn to set aside their own interests and assumptions when reading, and instead to listen closely to what an author has to say before responding. Similarly, Sullivan (2017) has argued that this attitude of openness and critical reflection is at the heart of the “deep reading” practices we should help students cultivate over the course of their academic careers. For this reason, situating texts also involves situating readers and situating our individual acts of reading.

Generally speaking, when we engage students in the process of situating texts and situating their acts of

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reading, we explicitly frame our initial task as one in which we seek to understand what *this author* has to say about the issue at hand; in doing so, we model how our first job, as open and attentive readers, is to be good listeners. Yet while this reading process ideally should begin with an effort to address the fundamental questions of who, what, when, where, and why with regard to a text's creation, as well as a consciousness of what our specific purpose is in reading the text, students often jump into reading without reflecting on these questions. Whether this tendency is related to student attitudes, such as a lack of motivation, a high sense of self-efficacy, or the assumption that previewing strategies used in high school are not relevant in college, to prior literacy instruction emphasizing decontextualized readings, for which Common Core curricular models have been criticized (Young & Potter, 2017), or to other factors, failing to situate texts limits students' comprehension and subsequent reflection.

In courses across the curriculum, instructors can model how the process of putting texts and acts of reading in context goes hand in hand with recalling prior knowledge and getting our minds ready to read. After recalling prior knowledge relevant to Crawford or Young's article, for example, the class might review the author's biography and previous publications, preview the article title, subtitles, images, and inset quotations, and, based on this information, make predictions about the text. If the professor helped students identify the main questions they might seek to answer about the author's argument, it would clarify the student's act of reading and sense of purpose as well.

The student getting ready to read the textbook chapter on cell structure would also benefit from such an activity. To further contextualize the chapter, the biology professor could review with students the inside front cover of the textbook that explains how the organization of each chapter is designed to facilitate student learning, and they could preview how the cell structure chapter employs that approach. They could also share strategies for "chunking" the text so that students do not become overwhelmed by the amount of visual and textual information presented on each page; for example, they could suggest that students begin by reading the summary of main ideas at the end of the chapter, and that they then work through the chapter

one section at a time, taking notes, self-monitoring, and reflecting on the relationship between the figures and the text. Even more, they might suggest that students take a short break in between reading each section to refresh their attention, and that they take a moment to recap what they learned in the prior section before moving on to the next one.

In upper-level courses, situating texts and acts of reading might focus on cultivating awareness of disciplinary conventions to promote comprehension. For example, a history professor may already recognize that students need instruction on "reading like a historian" when it comes to contextualizing and analyzing primary source documents (Stanford History Education Group), yet they may assume that students already understand how to read secondary works. This disciplinary knowledge is not necessarily apparent to students, however. While a history professor may assign a book hoping students will read it to identify how the author interprets the historical episode in question and draws conclusions in relation to the existing historiography, a student may see their goal as gathering information about the topic.

Even if the student were aware that their goal was to come to class ready to discuss the author's argument, they would benefit from their professor taking time to offer insight on how to read the text. Taking a learner-centered perspective, we can imagine how a student picking up a work of history like Robert Paxton's seminal *Vichy France: Old Guard and New Order, 1940-1944* (1972) or Eric Hobsbawm's *The Age of Extremes: A History of the World, 1914-1991* (1996) could be overwhelmed by its length, level of detail, and references to unfamiliar names and events, putting them at a loss for how to identify the most significant information and grasp the author's argument. In this situation, sharing concrete tips for reading disciplinary texts – for example, showing students how a historian often contextualizes their research and reason for writing in the preface, previews their argument in an introduction or prologue, and sums up their findings at the conclusion of a section, chapter, or the book as a whole – would give students valuable tools for gaining a basic understanding of an author's argument and main ideas before getting into the weeds of the historical evidence presented in each chapter.

Similarly, when a professor in the social sciences

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assigns an academic journal article, they could prompt students to recall prior knowledge about the topic as well as about how authors in their field usually structure their arguments. Then, the professor could briefly preview the text, sharing additional knowledge and reading tips specific to the structure of the article at hand. If students have a foundational understanding of the distinct function of an article's sections (abstract, literature review, data and methods, discussion, etc.), in terms of the author's purpose in writing them as well as their purpose in reading them, they will be better prepared to create meaning from the text as a whole.

Sharing this kind of disciplinary knowledge about text structure is sometimes referred to as a "text walk" (Anders & Guzzetti, 2005), and this activity is applicable across content areas. When we model how an awareness of an author's context for writing and our own purpose for reading informs the strategies we use to comprehend a text, we help students understand the socio-cultural dimension of writing and reading. Ideally, this knowledge might contribute to a heightened sense of self-awareness and self-efficacy in our students, which might further increase their interest and confidence in reading texts across the curriculum.

Read together

In reflecting on why reading often is not addressed in college classrooms, Scholes (2002) has noted that

we normally acknowledge, however grudgingly, that writing must be taught and continue to be taught from high school to college and perhaps beyond. We accept it, I believe, because we can see writing, and we know that much of the writing we see is not good enough. But we do not see reading. We see some writing about reading, to be sure, but we do not see reading. I am certain, though, that if we could see it, we would be appalled. (p. 166)

Composition researchers have offered many strategies for "making reading visible" (Carillo, 2009) when it comes to critical reading, and to these I would add the value of reading together, aloud, in class, and having students comment on their reading processes as they read, such that the work of comprehending texts is made visible not only to the instructor, but also to students, who can learn

from one another's processes, challenges, and problem-solving strategies.

Whether referred to as "reading apprenticeships" (Schoenbach et al., 2012), "reading as thinking" approaches (Dalton & Proctor, 2007), or "think-aloud" protocols that also incorporate and model critical reflection (Daniels & Zemelman, 2004; Jolliffe, 2007), these activities can help boost reading comprehension. In my first-year composition courses, I facilitate read-aloud activities inspired by Schoenbach et al.'s "reading apprenticeships." I first model my own reading practices by reading a short paragraph aloud and, after each sentence, explaining my thought process in order to illustrate the strategies I used to understand it. Then, I ask members of the class to take turns doing the same thing, reading a sentence or two aloud and sharing their thought processes as they go. Students comment, for example, on how specific references impact their understanding of the point an author is making, how connections to a prior paragraph help them understand the meaning of a sentence, or how a difficult word initially presented a roadblock to understanding and how they worked through it.

This activity also naturally lends itself to illustrating the connection between comprehension and critical reading. For example, students may transition from summarizing a sentence to commenting on that sentence's function in developing the argument, such as how the author uses it to set up an alternate perspective or to provide an example illustrating a key point. In addition, I have noticed that read aloud activities often help students practice annotation strategies since listening to other students' thought processes can develop their understanding of the kinds of comments or questions a reader might have in response to a text.

Of course, reading aloud should not be reserved for first-year composition; as noted previously, in courses across the disciplines, comprehending texts often requires "discipline-specific ways of reading and thinking" (Braunger et al., 2005, p. 13). In my own classes, I also use this teaching strategy when I can anticipate how a lack of disciplinary knowledge – whether in terms of conventions of argument, references to contextual information, or shared assumptions – could lead to a misreading of the author's meaning at

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a key moment in the text or a failure to identify “the gist – the big ideas” (Block et al., 2002, p. 13) central to an author’s argument.

Consider, for example, the following passage, in which political scientist James Scott introduces his concept of “everyday forms of peasant resistance” in *Weapons of the Weak* (1985). Prior to this passage, Scott has explained his “growing dissatisfaction” with the emphasis that he and other scholars had placed on “peasant rebellions and revolution” (1985, p. 28), noting that such revolutions are not only uncommon but also lead to questionable gains and, sometimes, even greater state repression. Thus, Scott suggests,

it seemed far more important to understand what we might call *everyday* forms of peasant resistance – the prosaic but constant struggle between the peasantry and those who seek to extract labor, food, taxes, rents, and interest from them. Most of the forms this struggle takes stop well short of collective outright defiance. Here I have in mind the ordinary weapons of relatively powerless groups: foot dragging, dissimulation, false compliance, pilfering, feigned ignorance, slander, arson, sabotage, and so forth. These Brechtian forms of class struggle have certain features in common. They require little or no coordination or planning; they often represent a form of individual self-help; and they typically avoid any direct symbolic confrontation with authority or with elite norms. (1985, p. 29)

This passage might present multiple challenges to student comprehension due to a lack of prior knowledge. During a read aloud activity, however, an instructor could model how they identify context cues, look up unfamiliar vocabulary words like “dissimulation,” and show how they would develop their understanding of these terms by connecting them to behaviors they are already familiar with. They might also point out how specific phrases in the passage, such as Scott’s references to “class struggle,” imply a Marxist influence, and they might have students recap what they know about Marxism and share their reflection on how it might inform Scott’s concept of everyday resistance. Then, they might break down the final sentence of this passage into its component parts, working through each clause to paraphrase it and

connect it back to the kinds of activities listed in the previous sentence, before finally articulating the kinds of questions they might seek to answer as they continue reading Scott’s text.

Making our reading practices visible in this way models how effective readers use multiple comprehension strategies (Hock & Mellard, 2005), in this case chunking, self-monitoring, contextualizing, recalling prior knowledge, connecting main ideas and details, paraphrasing, and making inferences. In addition, when we share how we use disciplinary knowledge to construct meaning from course readings, we help students become more aware of their own acts of reading and approaches they might use to comprehend texts in our field (Braunger et al., 2005).

Incorporate transmediation

Reading research consistently emphasizes the value of transmediation – “moving from one domain of expression (writing) into another (drawing, drama, dance)” (Daniels & Zemelman, 2004, p. 32) – to facilitate reading comprehension. According to Hadjioannou and Hutchinson (2014), transmediation enables “students to recast texts in personally meaningful literacies and modalities” (p. 3). Similarly, Hoyt (1992) has noted that transmediation “encourages learners to generate new meanings and expand existing ones” (p. 581). While transmediation certainly includes the move from reading to oral conversation, since “talking is an expressive art” (Hoyt, 1992, p. 582), we can incorporate additional modes of engagement and expression into our instruction as well.

Perhaps the most common use of transmediation to promote reading comprehension is the creation of visualizations, normally by having students draw or make mental images to help process what they read (Carraway, 2014). In a literature class, an instructor might ask students to pause while reading to draw a detailed illustration of a character in a novel or to create moving images in their minds, such as having students pretend they are a cameraman zooming in or out on a scene as they read or as they listen to another student reading aloud (Korby, 2016). Visualization exercises are relevant to engaging argument-based texts as well. While expert readers can identify common structural choices used to

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organize arguments (Horning, 2017b), when students misread an argument's structure, perhaps by mistaking a counter-argument for the author's position, it results in a fundamental, and often enduring, misreading of the text. To address this challenge, we could work with students to create concept maps of text structure (Lei et al., 2010), or have them use visual language to represent an author's central question and the main idea they present in response, or to explore an author's use of evidence.

In my own classrooms, I have increasingly incorporated drama as a form of transmediation in response to this research. Just as we might create a visualization to represent argument structure, so we can use drama to enact the context for or structure of an argument. In one such exercise, my students and I work together to develop a short performance representing how an author is entering into an existing conversation. If an author begins their discussion by laying out alternate viewpoints on the issue at stake, for example, my students work in small groups to each prepare a short skit that gives voice to one of those viewpoints. Then, I (or another group of students) play the role of the author, first introducing themselves and the question they have about the topic, then stepping aside to listen to each skit before responding to that perspective with their (the author's) reflection on its merits or limitations, and framing their own argument in response.

Such an activity could be adapted to reading texts across the curriculum, whether those texts are assigned in a first-year composition course to model the "they say / I say" approach (Graff et al., 2018) or in upper-level courses in the disciplines. For example, an instructor teaching a philosophy course on medical ethics might use this activity to strengthen comprehension of how Michael Sandel situates his argument in "The Case Against Perfection: What's Wrong with Designer Children, Bionic Athletes, and Genetic Engineering" (2004), drawing students' attention to how Sandel uses deductive reasoning to present alternate arguments against genetic enhancement, critique their premises, and then elaborate on his own position.

Similarly, this activity could be used in relation to an article in sociology, criminal justice, or business marketing to help students see how an author first explains the existing scholarship on the topic, for example by noting

how it has changed over time, before transitioning into a presentation of their own research question or the theoretical framework for their study. In each of these cases, transmediation would help students situate the text as well as their act of reading. It also could heighten student engagement. To put it simply, these collaborative activities, which are a break from the usual read, discuss, take notes structure of many college classes, are fun and interactive, and celebrate creativity. This experience, in turn, may increase students' motivation and interest.

Finally, the use of transmediation also aligns with scholarship on universal design for learning (UDL), a set of teaching principles based on the science of learning (CAST, 2018) that seek to support "inclusive teaching practices" (Scott et al., 2003, p. 378). In order to provide equal access to learning, UDL principles encourage the use of varied modes of instruction to offer students "multiple means of expression, presentation, & engagement" (Jiminez et al., 2007, p. 47). For students with language-based learning disabilities, the texts themselves may present obstacles to reading comprehension; thus, incorporating additional modes of instruction related to course readings, such as visualizations and dramatic interpretation, can help make texts more accessible to more students.

In addition, when instructors offer multiple modes of instruction, "these alternatives reduce barriers for individuals with disabilities but also enhance opportunities for every student" (Rose & Meyer, 2002, para. 19) since all learners can benefit from varied ways of exploring and demonstrating their understanding of course texts. As part of a repertoire of reading-related teaching strategies, transmediation does not replace texts or allow students to avoid readings, but rather offers students additional modes of engagement and expression to help them create meaning from what they read.

Encourage metacognitive reflection

Finally, across all of the activities described in this article, we can incorporate opportunities for students to reflect on what they are reading, how they are reading, and how these reading practices impact their understanding of what they read. To further promote self-awareness while reading, we can ask students to complete annotation activities, and we can model how

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to self-monitor as a part of a read-aloud activity in class. We might also assign journaling exercises that explicitly prompt student to reflect not only on what they read, but also on how specific reading strategies helped them comprehend the text. Toward the end of a course, we can prompt students to recall what they have learned about reading comprehension strategies in our class and engage them in conversation about how they might apply that knowledge to other course contexts.

Here, we can see again how modeling and teaching strategies that support student reading comprehension can unfold in tandem with our goals of developing students' critical reading and disciplinary reading abilities. Many of the strategies described in this essay are compatible with Carillo's concept of "mindful reading," which she defines as "a *framework* that contains the range of reading strategies that students might be taught" and within which "students become *knowledgeable, deliberate, and reflective* about *how* they read and what different reading approaches allow and enable" (2017a, p. 190). As Carillo has explained, such metacognitive awareness and related habits of mind support students in the transition to college reading: "College-level readers reflect on their ways of reading, they imagine and make connections across contexts, they adapt reading strategies to various contexts, and they are cognizant of the time it takes to read actively" (2017a, p. 202). When we model and help our students reflect on reading strategies that can help them comprehend texts across the curriculum, we further support them in this process of becoming "college-level readers."

Conclusion

I have suggested in this article that addressing reading comprehension in the first-year composition classroom and across the curriculum is essential to developing an inclusive teaching practice. Valuable work is being done already to address the need to develop students' critical reading skills to prepare them for success in college reading across the disciplines. Yet to the "techniques and strategies for effective reading in college and beyond" that we "explain, model, demonstrate, and evaluate their [students'] practice of" in our classrooms (Jolliffe, 2007, p. 480), we should add that of reading comprehension, for without a core understanding of the ideas and information an author seeks to communicate,

our students cannot meaningfully practice the critical reading skills we aim to teach them and that are the at the heart of college reading.

Because the work of teaching reading may be unfamiliar to college faculty, and because it may not be obvious at first why teaching reading is both manageable and relevant to our work, I have endeavored to illustrate research-based, practical teaching strategies that can be incorporated into courses across the disciplines to facilitate comprehension. I have encouraged faculty to begin by adopting a learner-centered perspective, and then to reflect on how they might develop class exercises that will better position students to comprehend texts in their field. To offer a manageable repertoire of activities, I have focused on recalling prior knowledge, practicing putting texts and acts of reading in context, reading together to model comprehension and disciplinary reading strategies, incorporating transmediation, and encouraging student metacognitive reflection.

How these strategies are best integrated into courses at different levels across the disciplines will vary, as will their impact on individual student comprehension. In addition, while some faculty may feel prepared to begin incorporating these teaching practices on their own, others might prefer to engage their departments in conversation about organizing professional development workshops to further develop their understanding of reading pedagogy and to work with faculty colleagues on articulating shared learning objectives related to reading in their discipline. Whatever the path forward, when we make a conscious effort to support reading comprehension, we are acknowledging the complexity of the reading comprehension process, we are offering guidance to students on how to approach and engage texts in our fields, and we are working to create inclusive learning environments.

Finally, my goal of generating conversation about teaching reading comprehension in first-year composition and across the curriculum addresses a broader need to build pedagogical expertise in higher education (American Academy of Arts & Sciences, 2017). Many college faculty members unconsciously reproduce the teacher-centered teaching styles of those who taught us, whether because those teaching strategies worked for us, because we lack alternative models, or because most

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academics do not receive explicit instruction in teaching pedagogy and learning theory (Halpern & Hakel, 2003; McGuire et al., 2006). Yet as the American Academy of Arts and Sciences (2017) has suggested, while college has become more accessible to high school graduates as well as a growing number of adults, “too little attention is paid in undergraduate education to the educational experience itself and, in particular, to the challenge of ensuring that the 17 million diverse college students in many types of programs are learning and mastering knowledge, skills, and dispositions that will help them succeed in the twenty-first-century United States” (p. 8).

As Horning has reminded us in the introduction to *What is College Reading?* (2017), “literacy instruction is the work of all teachers, K-12 and beyond. It does not and should not end in elementary or secondary school” (p. 13). Across the disciplines, we would do well to critically reflect on our own curricula and on our assumptions about student reading that may inform them. To provide equal access to learning, we should consider ways of incorporating varied, learner-centered teaching strategies informed by what reading researchers, educational psychologists, and cognitive scientists have to tell us about what helps students comprehend what they read. In doing so, we will take as a starting point the diversity of learners in our classrooms, and we will do more to help lift the “literacy ceiling” (Schoenbach et al., 2012, p. 5) that might otherwise create obstacles to student learning, critical thinking, and academic success.

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TEACHING REPORTS

The Remix Pairing: Writing Assignments that Support Instructional Alignment and Student Satisfaction

—Sarah Seeley

Institute for the Study of University Pedagogy, University of Toronto Mississauga

Correspondence concerning this article should be addressed to Sarah Seeley,
Email: sarah.seeley@utoronto.ca

Abstract

This article explores the reciprocal relationship between social contexts and written texts to suggest that educators in university contexts must teach writing in *any* context where it is used as a mechanism for assessment. I examine some contemporary public discourses on student writing to illustrate the negative impacts of instructional *misalignment*. I then present a set of assignments, the Remix Pairing, that connects contemporary social exigencies with the library research that is considered the traditional domain of the university. I argue that this set of assignments offers a plausible inroad for both increased instructional alignment and increased student satisfaction via heuristic learning. The Remix Pairing may be productively adapted for use in any discipline, and applicable teaching materials are appended.

Key Words

instructional alignment, student writing, heuristic learning

Introduction

Writing is hard, and this is the case not only in college classrooms. To that point, Heaney recently posed this question on the *New York Magazine* blog *The Cut*: “why... do writers hate writing so much?” (2019, para. 2). She went on to speculate that writers don’t hate the *idea* of writing, so much as the act of sitting down at one’s desk (or, more realistically, one’s couch), and opening a blank document. Like most chores and obligations— like trying to get oneself to the gym— the low point is just before you begin. And like most chores, the satisfaction derived from writing is all too short-lived (para. 5).

No matter the writer’s content, purpose, genre, or audience, this issue of satisfaction is central to the production of effective writing. In response, I present a pair of linked assignments that connect academic and public occasions to write: The Remix Pairing. From a pedagogical perspective, some of the biggest challenges faced in *any* classroom involve getting students excited about writing through making it relevant and satisfying. These challenges can, on one hand, be understood as a symptom of students feeling as if university writing contexts are dry, obtuse, or irrelevant. On the other hand, these challenges may be linked to issues of information literacy. This is not to say that students’ information literacies are necessarily lacking, but rather that they may not perceive their go-to methods for seeking and consuming information as being compatible with academic literacy practices.

While such perceptions are likely anchored by the iconic status of the scholarly source within college classrooms, there are, of course, other ways of seeing and writing the world. Furthermore, learning the various disciplinary conventions necessary for reading

The Remix Pairing *continued*

and writing scholarly arguments involves a substantial socialization process. Given all of this, educators may do well to link academic and public occasions to write. This helps to situate scholarly reading and writing practices within the same realm as more familiar or personal literacies, thus making student writers' experiences of scholarly work more relevant and satisfying.

To enact this linked way of seeing and writing, I propose offering students a pair of complementary lenses for understanding the relationships between content, audience, purpose, and genre. These lenses take the form of two consecutive assignments: 1.) a scholarly argument, and 2.) an essay I refer to as a research remix. While the precise conventions of the scholarly argument will differ depending on the discipline students are writing for, the research remix asks student-writers to focus on the take-away from their scholarly research and adapt their findings for a specific public or non-academic audience. Together, I will refer to these assignments as the Remix Pairing¹.

In the following sections I explore the reciprocal relationship between social contexts and written texts in order to offer a theoretical framework for the Remix Pairing. While this relationship has been demonstrated across diverse bodies of literature, I cover it here to respond to the popular perception that problems with writing are located at the level of the student. In particular, I respond to articles that have been printed in *The Chronicle of Higher Education* to suggest that educators must acknowledge and engage with social contexts in order to teach writing in *any* context where it is used as a mechanism for assessment. In other words, the social and cognitive complexities involved with writing cannot be ignored: all instructional designs must attempt to account for the personal, disciplinary, and logistical contexts students are asked to write within.

I then move on to examine how the Remix Pairing offers a framework for: 1.) connecting scholarly research with social exigencies in order to engage and empower student writers, 2.) foregrounding writing and revision as processes in order to help student writers become more confident in their communicative capabilities, and 3.) aligning learning expectations and pedagogical choices in order to help student writers meet learning outcomes.

In doing so, I reflect on how these assignments were initially designed for a writing course, but in practice, they foregrounded the problem of treating "scholarly research writing" as a stable genre. Because of this, I also reflect on how the assignments were ultimately relocated to an anthropology course in order to suggest that the Remix pairing may be productively adapted within *any* disciplinary context.

Social Contexts and Written Texts: A Reciprocal Relationship

This section of the essay focuses on two interrelated issues: representing writing as an acontextual technology and locating the attendant writerly shortcomings with the students themselves. Anthropologist Street has argued that, "what the particular practices and concepts of reading and writing are for a given society depends upon the context; they are already embedded in an ideology that cannot be isolated or treated as 'neutral' or merely 'technical'" (1984, p. 1). This statement is not, at first glance, particularly controversial. Even a cursory look at contemporary work in writing studies would illustrate agreement on Street's point that writing practices are deeply imbricated in all manner of social contexts, expectations, and demands, as well as ideological formations (e.g. Adler-Kassner & Wardle, 2015). I will, however, go a step further by removing the words "reading and writing," so that the sentence reads: *what the particular practices and concepts of _____ are for a given society depends upon the context; they are already embedded in an ideology that cannot be isolated or treated as 'neutral' or merely 'technical.'* We can now fill in that blank with any number of alternate words, for example: religion and ritual or gender and sexuality. At this point, the remark would hopefully rise to the level of complete self-evidence. Yet, upon re-inserting "reading and writing" and engaging with contemporary discourses about higher education, as we will do in the coming pages, we can identify a damaging ideology that cannot be, yet often is, regarded as neutral.

Street was writing in response to what he and others (e.g. Besnier, 1995) have referred to as an autonomous model of literacy, which conceptualizes reading and writing practices as being context-free (1984, p. 5). This presupposed social autonomy is also at the center

¹ See Appendices A and B for full assignment prompts.

The Remix Pairing *continued*

of critiques of “essayist literacy” (Scollon & Scollon, 1981, pp. 49-52; Trimbur, 1990). Essayist literacy perspectives similarly cast writing as an acontextual technology through the hierarchical positioning of particular discursive practices. Furthermore, Street suggests that the autonomous model of literacy “tends implicitly to privilege and to generalise the writer’s own conceptions and practices, as though these were what ‘literacy’ is” (1984, p. 2). This tendency is particularly damaging when it takes the form of teachers representing their own ideas and practices as the “right way” to the exclusion of a range of other possible ideas and practices. Such representations, or worse: quiet assumptions, deny the reciprocal relationships between text and context. They deny the interrelatedness of communicative practices and social life. But, of course, writing and speaking practices are deeply connected to both the social exigencies that demand them and the value-laden institutional structures that praise and criticize them (e.g. Bakhtin, 1986; Bauman & Briggs, 1990; Bawarshi, 2000; Bazerman, 2004; Duranti, 2003; Ede & Lunsford, 1984; Goffman, 1967; Silverstein, 2003; Urciuoli, 2014; Woolard & Schieffelin, 1994). Even after decades of critique across the humanities and social sciences, perspectives undergirded by the homogenizing logic of the autonomous model are still deeply imbricated in the experience of higher education.

For an example, we can look to Lillis’ book (2001) *Student Writing: Access, Regulation, Desire*, which presents the results of a three-year case study among non-traditional students in higher education. She writes:

A key tension for all the student-writers was the institutional rejection—whether at the level of context of situation or culture—of personal experience and involvement in writing. The writers usually accepted this in constructing their texts but resisted it in their thinking about what their texts are / might be (p. 115).

We know, of course, that all students, classrooms, genres, disciplines, and societies are not alike, yet experiences of writing instruction are still shaped by dominant institutional rejections that represent writing as an equally accessible, acontextual technology. In the case of Lillis’ study, the homogenizing logic aims to flatten out personal diversity in the form of discouraging

or rejecting writers’ involvement in their own writing. Representations of writing as an acontextual technology also take other forms, for example: presupposed disciplinary or lexical neutrality or binaries like formal vs. informal and logic vs. emotion. Perhaps most problematically, though, viewing writing as acontextual actively obstructs accessibility. I am describing situations where the responsibility of teaching writing in context may be rejected because it is wrongly assumed that all student writers 1.) already have access to *general* writing related knowledge, and 2.) that such general knowledge will yield success within *specific* classrooms.

In contrast to the relativism we would associate with religion and ritual or gender and sexuality, the acontextual perspective attempts to solidify educators’ personal assumptions and experiences as truth. It yokes an array of theoretical, disciplinary, personal, and cultural diversities into an unsatisfying, ready-made context. These assumptions shrink the constellation of possibilities for what student success may look like. Writing is hard, and this only makes it harder. Viewing writing as an acontextual technology reifies a world in which the students we’ve imagined in some version of our own image rise to the top. In contrast, this perspective leaves more linguistically vulnerable students to struggle.

Periodically, the public discourses of our shared profession reveal the continued reach of the acontextual perspective. *The Chronicle of Higher Education* has often been the stage for these debates, which cannot be ignored: they are a material, public representation of how professional educators think about student writing. Most recently, Zaretsky published the article “Our Students Can’t Write. We Have Ourselves to Blame” (2019). Before that was Teller’s “Are We Teaching Composition All Wrong?” (2016)².

Despite the fact that their titles suggest otherwise, these articles locate “the problem” of writing with the students through various turns of homogenizing logic. For example, Teller asserted that, “students can’t write a clear sentence to save their lives” (2016, para. 1). Of his own students’ papers, Zaretsky similarly asserted: “As for the staples of paper writing, including the basic punctuation of sentences and the clear organization of ideas, they are almost nowhere to be found” (2019, para. 3). Both Teller and Zaretsky represent writing as an equally accessible,

² See Hesse 2017 for a response to Teller.

The Remix Pairing *continued*

acontextual technology. Insofar as students do not have access to or the ability to demonstrate particular writing conventions, they come to embody “the problem.” This is not, however, to say that a problem does not exist. In such instances, there is a very real problem of instructional alignment: one cannot assess (or bemoan the absence of) what they are not able to teach. These perspectives cannot, of course, be generalized and assigned to all educators. Nor are they underwritten by research on student writing. Rather, we are looking at the textual echoes of the hallway discussions that undeniably take place around student writing. This is why they must be taken seriously.

There is often a problematic displacement of responsibility at the root of these discussions. Assuming that students already know how to write a sociological analysis or an osteology report is exclusionary, and it denies the interrelated nature of text and context. Writing instruction cannot be relegated only to writing classrooms. As Reiser noted in a recent interview, instructional alignment is a key principle of instructional design, which “simply means that our goals, our instructional, and our assessment activities are clearly related to one another; each of them focusing on the same educational outcomes” (Shaughnessy, Fulgham, & Reiser 2017, p. 62). Similarly, student writers’ sociocultural interests and literacies cannot be relegated only to their personal lives. These problematic containments are not incidental to the production of “bad writing.” Writing is “bad” when the writer is disinterested, when she is unsatisfied, when she isn’t given guidance. Again, following Reiser, “if our learners have not succeeded, it’s our responsibility as instructional designers to revise our instruction so as to increase the likelihood our learners will acquire the skills and knowledge we would like them to attain” (2017, p. 62). In other words, we are thinking about how to shore up the gap between the ideal and the real. In this case, the “ideal” is a context where students are meeting our designated learning outcomes. In contrast, the “real” is the degree to which we are offering instruction that supports said learning outcomes. As Reiser suggests, it is the job of the teacher to close such gaps. This is a complex problem, and it demands solutions. For me, the solution involves exploring more democratic writing contexts. It avoids exclusionary pedagogical assumptions. It expands the parameters of my classroom in order to include the

diverse literacies that students maintain as people within their *own* social contexts.

The Remix Pairing: A model for linking academic and public occasions to write

Before I move into a discussion of the assignment particulars, I will offer a context for how I came to develop these assignments. I first developed the Remix Pairing³ to tailor an intermediate writing class to meet the needs of STEM students. The goal was to offer writing contexts that both STEM and humanities students would find professionally relevant and personally satisfying. The Remix Pairing is a move toward meeting this goal because it consists of two complementary occasions to write. First, I ask student writers to conduct scholarly research in order to advance an argument that contributes to some type of ongoing academic conversation. This is the scholarly argument element of the pairing. Next, student writers focus on the take-away from that scholarly research in order to repackage—or remix—their argument.

Students remix their work in a way that considers the interrelationships between audience, purpose, genre, and content. For example, the presentation of content is governed by different sets of expectations for each genre. Because each assignment has a different purpose and a different audience, student-writers must navigate interrelated questions like these: What are my goals for each essay? How does my goal shape content and organization? What types of evidence will be most compelling in each context? How do the needs of my audience impact how I present that evidence?

They navigate this process to communicate complex ideas to people who need their scholarly knowledge, but who may not otherwise have access to it. My students and I conceptualize this question of access in a variety of ways. Information may be logistically inaccessible due to the digital divide or pay walls. It may be cognitively inaccessible due to lack of context, content-based knowledge, or reading comprehension. In short, the remix portion of the pairing offers student writers an opportunity to make their work vital by disseminating knowledge to people who depend on their expertise. I used some version of the Remix Pairing in this intermediate writing class for five

³ See Appendices A and B for the assignment prompts. See Appendices C and D for associated writing workshop prompts.

The Remix Pairing *continued*

terms, and students have responded to it quite positively. Many have explicitly valued the opportunity to practice disseminating expert knowledge to audiences that they view as their future clients, patients, etc.

Teaching the assignments

In the context of my intermediate writing class, the scholarly argument portion of the pairing has always been the second unit in the course⁴. The scholarly argument unit of the course typically spanned weeks four through ten of a sixteen-week term. Instruction during this unit of the course included activities and topics such as:

1. an introduction to library resources and scholarly sources
2. a bibliography mining activity
3. an introduction to the basics of argumentation
4. research question, thesis, and topic proposal workshops
5. argument mapping workshops
6. a rhetoric of the citation workshop
7. peer evaluations workshops

Students initially received oral feedback on a preliminary draft of the scholarly essay, and then submitted a revised draft for written feedback during week ten. At this point, the focus shifted to the remix assignment. This section of the course typically spanned three weeks of the term, with polished drafts of the remix essay being due in week twelve. Instruction during this unit of the course included activities and topics such as:

1. audience awareness workshops
2. an introduction to recognizing and naming presuppositions
3. the rhetorical moves involved with the popularization of science
4. a peer evaluation workshop

In making the shift from engaging with scholarly contexts to public contexts, the question of audience is at the forefront. When the student writers begin their scholarly research, they must engage with the question of why their argument needs to be written. In other words, their work is guided by a sense of how they plan to contribute to scholarly understandings of their

topic. When student writers begin their remixes, they must engage with similar questions: Who needs the information I have to offer? Who is in a position to take action based on the information I have to offer?

The shift into public writing contexts also demands that the student writer evaluate the rhetorical situation and adapt their tone, organizational style, and content to fit the new context. For example, student writers often choose to write for public audiences of which they are not themselves a part. This offers up a complex demand: to step outside of oneself in order to recognize whether one's ideas are going to engage a group of people whose attitudes, emotions, and opinions may be impossible to know or understand. This is, of course, very similar to the challenges involved with engaging with opposing viewpoints in a piece of scholarly writing. In the case of the remix, however, I would argue that students are better equipped to conceptualize the challenges because they are familiar with how to be and act as citizens within their own social contexts. They have the self-awareness to know that their own attitudes, emotions, and opinions may shape their thinking in unpredictable or opaque ways. The hope is that they also apply this self-awareness to developing their scholarly voice and professional identity: to know that their own disciplinary presuppositions and knowledge may shape their writing in specific ways that are certainly not neutral or acontextual.

A student-written example

The following excerpts are taken from the work of Ross Lancaster, a student writer majoring in biology at Rensselaer Polytechnic Institute⁵. The first excerpt, taken from Lancaster's scholarly argument, maps out a context for analyzing online dating culture. The paragraph establishes the writer's credibility through approaching the deeply human problem of love from a distance. It also reflects many A qualities from the grading rubric: presenting a framework for an academically grounded argument, using scholarly sources purposefully, and employing a contextually suitable academic tone.

⁴ The scholarly argument unit of the course is preceded by an assignment that is not discussed here.

⁵ Lancaster has consented to having excerpts from each of his essays published here. Further, the absence of anonymity is a purposeful choice. It is in keeping with his stipulations.

The Remix Pairing *continued*

Scholarly Argument title: “Finding Real Love in a Virtual World”

Audience: social psychologists

Finding a partner is one of the most biologically important tasks and can prove to be the most emotionally rewarding as well. However, for many people, locating the perfect partner is a daunting endeavor. This difficulty has led to the rise of online dating in the last few decades. It is estimated that about 40% of Americans have used online dating and that about 20% of committed relationships began online. According to eHarmony, these numbers only continue to climb (Thottam). This is likely because online dating provides certain advantages over conventional, in person dating. According to Northwestern University psychologist Eli Finkel, these advantages include access, communication, and matching (1). Access refers to how online dating services give users the ability to encounter numerous potential partners that they would not likely meet in their everyday lives. Communication relates to how users are able to interact with possible romantic partners before meeting face-to-face. Finally, matching refers to how online dating services utilize specific algorithms to pick out a small group of people from the larger user base: those who are seen as more probable partners. However, even with these advantages it is important to analyze whether online dating is the most effective way for one to find love.

In the next excerpt, Lancaster remixes the context and purpose of his research by focusing the social exigency that demanded it in the first place: the pursuit of love. He again maps out a context for analyzing online dating culture and establishes his credibility by approaching the deeply human problem of love using a much more conversational, socially relatable tone. This paragraph also reflects many A qualities from the grading rubric: offering a relatable hook, presenting contextually appropriate evidence, and employing a contextually suitable, informative tone.

Remix title: “The Easy Way Isn’t Always the Right Way”

Audience: People considering online dating

So, all of your friends’ friends were not exactly the perfect matches they were built up to be? Or, maybe you have hit the age where finding the Holy Grail would be an easier task than finding a date? Whatever your reason is, there is nothing to be ashamed of in looking for help in finding love. From the arranged marriages of the past to the online dating scene of today, people have been utilizing third parties to help find a partner for centuries. With over 40% of Americans having used online dating at some point and 20% of relationships having started online, this process is currently easier than ever. You are not alone in turning to the internet to find the one who is right for you. Although online dating does provide you with access to more potential partners than you could ever dream of, it does come with some drawbacks you should be aware of so that you can have the best experience possible.

The value of the assignments.

The Remix Pairing accomplishes a number of pedagogical goals that range from the pragmatic to the theoretical. First, because the subject matter is the same across the two essays, the pairing is an efficient use of student time. This is particularly the case in contexts where general education parameters require students to produce a specific amount of writing. When students engage with the same set of ideas for two consecutive assignments, they can hit the ground running with the second essay. They are largely free to side-step a number of time-consuming elements of the writing process. For example, there is no need for another round of topic selection, in-depth invention of ideas, or in-depth research. Because students have already conducted research and constructed an argument, they already know what knowledge they want to repackage and disseminate to the public. They already know the overarching point they want to make, which mitigates the low point just before they begin and eliminates the ominous blank page.

The Remix Pairing *continued*

Second, the pairing creates the space for students to heuristically differentiate public and academic writing conventions, thus prompting more agentive and meaningful negotiations of audience, genre, discipline, and revision. The assignments offer students a comparative framework for developing their own specific approaches to differing audiences and adjacent purposes, their own understandings of genre conventions, and their own negotiations of how to tailor content accordingly.

Third, the pairing creates an epistemological bridge between academic and public writing contexts. In executing each assignment, students are able to conceptualize connections between the social circumstances that motivate scholarly research and the academic knowledge base to which such research contributes. This offers students first-hand experience with the sociopolitical power of writing: their ideas are not crafted for a sanitized audience of one. Rather, they are writing for two tangible audiences that welcome and/or need the knowledge they have to offer. And finally, this pairing of assignments foregrounds the fact that learning to write for different disciplines and audiences is a complex and ongoing social process.

Discussion

Yet, more often than not, this assignment has been a sticking point for students. This, in fact, is where I see its biggest value. The Remix becomes “sticky” when students have arrived at a full draft of the essay, only to realize that it merely reads like a shorter version of their scholarly argument. This is often the moment when they realize that the voice, tone, or use of evidence in the original scholarly essay is not quite right for *that* genre. Many students have actually lamented, in class or during office hours, that *both* of their essays “read like a remix.” Drawing on the work of Getzels and Csikszentmihaly, Murray (1978) noted that, “the most creative students are those who come up with the problem to be solved rather than a quick answer. The signal to the creative person may well be the problem, which will be solved through the writing” (p. 380). This is to say that when student-writers recognize a problem with their own writing—for themselves—it becomes a more meaningful issue to grapple with than if an outside reader had pointed it out. It becomes, as Murray suggests, a signal to write. And, given the anxieties that are often bound up with

cultural representations and experiences of writing, the importance of this kind of agency cannot be overstated.

Prior to developing the Remix assignment, I would spend a lot of time offering written feedback on students’ scholarly research in progress, making comments like this: *I think the tone, in places, is too casual for the genre.* Or this: *I don’t really get a sense that you’re participating in a scholarly conversation. How would you characterize the audience you’re writing for?* Rather than going through this process of me offering such feedback and them internalizing it to various degrees, the Remix Pairing opens up the space for students to conceptualize genre conventions with more self-awareness and ownership. I still, of course, offer individualized written feedback on drafts in progress, but I find that I am able to use my time differently. While content and genre can never be fully disentangled, I find that my time is freed up to focus my comments more on the former rather than the latter. This “stickiness,” then, has the potential to propel many students toward a much more agentive, if not streamlined writing process.

While the remix portion of the Pairing yielded many positive learning outcomes, I still struggled with the problem of treating “scholarly research writing” as a stable genre. Continuing to assign a scholarly argument as the centerpiece of this writing course was a questionable choice. I made that choice because I was familiar with the assignment. It had been a part of the required curriculum in the writing program I worked for as a graduate student, and I continued to use it for years. In doing so, I took on the labor of working with individual students as they executed arguments about subjects that were wholly outside of my expertise. These have been arguments about, for example, the use of neural nets in automation technologies or the long-term economic effects of tariff policies. Despite my best efforts, my students were writing in the context of a strange double bind. I asked them to write for a scholarly audience, but their *specific* audience, comprised of computer scientists or economists, did not exist in my classroom.

Despite my knowledge of the critiques of the supposed disciplinary neutrality that undergirds general writing skills instruction (Petraglia, 1995; Russell, 1995), I was unwittingly cultivating this state of contradiction in my own classroom. As Wardle’s (2009) critique of the

The Remix Pairing *continued*

goals of first-year composition suggests, when writing assignments are unmoored from any potential social exigency, they become sanitized exercises wherein “their purposes and audiences are vague or even contradictory” (p. 774). For the Remix Pairing to work, student writers need to be able to envision concrete audiences for *both* essays. They need to have knowledge of both the disciplinary and public debates these audience members participate in.

For this reason, I have since relocated this set of assignments to a linguistic anthropology class. There is, however, nothing specifically anthropological about the Remix Pairing. I believe it could function productively within any disciplinary context. I made this choice because my writing classes are not entirely what would be referred to as “writing about writing” classes, and so my writing students were not required to write about disciplinary debates in writing studies. Again, this is the double bind I discussed above: in offering topic flexibility in the writing class, I was trying to boost interest and satisfaction. Meanwhile, I was actually cultivating a vague and contradictory epistemological task. In contrast, my anthropology course introduces students to a body of disciplinary scholarship that they can draw on to guide their own research and writing processes. Because of this, the Remix Pairing finds a more productive fit here. It allows me to help students where they really need it: “developing and deploying their ideas and matching their writing with the expectations of various disciplines” (Hesse, 2017, para. 3). If I want students to write good anthropology papers, I have to teach them how to connect with anthropological audiences through situating their ideas within ongoing disciplinary debates. Similarly, if I want students to feel a sense of purpose and satisfaction when they wield anthropological knowledge, I have to teach them how to connect with public audiences and debates.

Concluding Thoughts

One cannot grumble about “bad writing” and also not teach writing in context. To do so continues to assume that writing pedagogies are permitted, as the title of Brodkey (1996) suggests, in designated areas only. “Composition classrooms are the designated areas of American colleges and universities. Composition courses are middle-class holding pens populated by students

from all classes who for one reason or another do not produce fluent, thesis-driven essays” (p. 135). Yet, we know that fluency and argumentative coherence are not innate skills, and they do not exist in a vacuum. Students must be socialized into how to make fluent, coherent arguments in context.

Social contexts and written texts have a reciprocal relationship. The significance of each is, of course, co-constructed in the minds of speakers, listeners, readers, and writers. Effective written expression involves a process of back and forth: advancing preliminary ideas, talking them out, re-imagining them, revising the text, and doing research throughout. This model is underwritten by a number of overlapping interactions: between the writer and her reader(s), the writer and the community of voices whose conversation she is contributing to, the writer and her peers, the writer and herself. It is imperative that writing is taught as an interactive, contextual technology wherever it is used as a mechanism for assessment. This is a pressing problem and it demands solutions. The Remix pairing is one possible way of developing writing-intensive curriculum that contextualizes genres, values non-academic literacies, energizes academic knowledge production, and teaches writing contextually.

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The Remix Pairing *continued*

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The Remix Pairing *continued*

Appendix A. Assignment: The Scholarly Research

This assignment asks you to do preliminary research to learn about a topic that is academically significant, stake out your own point of view, and then continue the research/writing process to create an appropriate argument in support of that viewpoint. This will involve a process of writing through which you contextualize, question, and interpret other scholars' ideas in order to offer an idea of your own.

Content + Audience

Your main goal in writing this essay is two-fold: 1.) You need to figure out how your voice, perspective, and ideas fit into an existing academic conversation, and 2.) In doing so, you will write an argument that builds upon and responds to pre-existing disciplinary or academic knowledge, thus establishing your own credibility.

In pursuit of these goals, you will sharpen your research and argumentation skills by examining and synthesizing the ideas presented in a range of scholarly articles. One of the hardest aspects of an assignment like this can be developing your academic research skills and this is something we will work on as a class. You may choose to write about any topic that interests you, so long as you can locate it within a scholarly conversation. Once you select a topic you would like to focus on, ask yourself some of the following questions:

- Why am I interested in this topic?
- What don't I know about the topic?
- What academic theories and perspectives will help me explore it?
- What have/n't other scholars written?
- How might I respond?

Organization + Format

We will critique a variety of arguments (produced by both students and professional scholars). I encourage you to pay close attention to other writers' organizational choices as you read these and other arguments. To that end, engaging with questions like these should support active reading:

- What kinds of research questions are other writers asking?
- How do they frame their claims?
- How do they use evidence and citation to build their analyses?
- How do they transition between sections of their arguments?

Timeline + Due Dates

You will submit a topic proposal during week 6. We will discuss the proposal parameters in class.

You will receive oral feedback on a preliminary two-page draft of this essay during week 8. You will then submit a five-page draft during week 10. At that point, I will provide written feedback to help you lengthen and polish your essay.

A final draft will be due during week 16. This draft will be 8-10 pages long, use MLA formatting conventions, and it will cite a minimum of five scholarly sources.

The Remix Pairing *continued*

Appendix B. Assignment: The Remix

This assignment asks you to focus on the take-away from your scholarly research, adapting your findings for a specific public or non-academic audience. The general points made in each of these essays will be very similar, but the language you use and kinds of details and evidence you include will be very different as you repackage your scholarly research to make it plausible for a specific set of non-academic readers.

Content + Audience

As you rewrite and reorient your research, it will be very important to identify and address a specific audience. In other words, “the general public,” is too broad a target. For example, perhaps you did scholarly research on the historical trajectory of LGBTQ+ representation on television. You could then remix your argument to present your findings to teens who are interested in the gay rights movement. In this case, you could hook such readers by citing Greggor Mattson’s June 2019 JSTOR Daily article, “The Stonewall Riots Didn’t Start the Gay Rights Movement.”

Regardless of the subject matter, an effective remix will:

1. Name and address a specific audience
2. Engage that audience through the inclusion of a timely hook
3. Highlight the non-academic consequences of the knowledge you have produced

As you begin to write, consider the following questions:

• What are the implications of the scholarly knowledge you produced?

- Who would benefit from being able to apply this knowledge in their daily lives?
- How could your findings help individual citizens contribute to public discourse?
- What current events are related to or illustrative of your argument?

Tone + Formatting

Keep in mind: “non-academic” does not mean “stupid.” Members of any public audience know many things, but they likely aren’t experts in the specific subject area you have researched. For example, I know little about cell biology. This does not mean that I do not have the capacity to understand and benefit from an essay about the implications of cell biology research for a specific cancer treatment. With this in mind, be thoughtful as you choose language for your remix: do not talk down to your audience. The final draft is due in week 12. It should utilize hypertext citation wherever possible and be four to five pages long.

The Remix Pairing *continued*

Appendix C. Workshop: Naming and Hooking the Audience

Audience awareness is a key element of effective communication. As Michael Rectenwald and Lisa Carl have noted, “writers sometimes make the mistake of writing to the page (or the screen) instead of a human being. In order to get your point across effectively, you need to envision your intended reader” (45). As you begin thinking about how to remix your scholarly research for a new audience, consider the following questions:

- Who are my readers? What kind of context do they require?
- How should I highlight the consequences of my argument?
- What kind of evidence should I present?
- Should I present source ideas using summary, paraphrase, or direct quotation?

Each of these questions asks you to think about how the reader will interact with your work. In focusing on readers’ potential responses to your Remix, you are making the concerns, needs, and values of your audience the starting point for what you write. Working with an intended reader, then, requires you to “embed” them into your argument. As you work to select and engage with this new audience, you will need to keep two considerations in mind:

First, what audience(s) need the information you have to offer? What audience(s) could take action based on the knowledge you’ve created? Open a Word document. Make a list of 2-3 possibilities.

Secondly, once you’ve selected an audience from your list, work with a partner to figure out what kind of audience-related knowledge you’ll need to write an engaging Remix. Use the following questions as a starting point.

- Is my audience characterized by particular socioeconomic or demographic characteristics? How and why should I take this into account?
- Is there a particular kind of worldview that seems to be associated with my audience? For example, how and why might things like religious, social, or political beliefs be taken into account?
- In conducting your scholarly research, you engaged with a problem of some kind. How does that problem impact the current reality or potential future of members of your audience? What specific information will you need in order to understand how the audience might experience that problem?
- Based on your brainstorming in relation to the previous questions, ask yourself: What current events are illustrative of or comparable to the point I want to make with my Remix?

The Remix Pairing *continued*

Appendix D. Workshop: Purpose, Audience, and Tone

If a writer maintains sensitivity to the audience's stance on a particular topic, it will help cultivate positive or open-minded engagements with the text. A respectful tone is more likely to reach the audience than one that is condescending, contrarian, or simplistic. And, in cases where the goal is to persuade an audience with an opposing view, writers need to think very carefully about their tone and voice.

In order to think about tone and voice, writers must think about purpose. You must ask yourself: what is my purpose? Do I intend to inform an audience of stakeholders? Or, do I intend to persuade an audience of naysayers?

Complete the workshop by having students analyze one or two sample texts, as guided by discussion questions like these:

- Is the hook written in an engaging tone? How/not?
- Does it match the audience? How/not?
- Do the writer's word choices illustrate knowledge of and sensitivity toward the audience's views, feelings, and experiences? Identify some specific phrases that work well and some that don't.
- Does the concluding call to action match the audience? Meaning: could the intended audience take these actions? Would they? Why/not?

TEACHING REPORTS

Embedded Tutoring: One Initiative To Help Struggling Students

—Amber N. Racchini

Indiana University of Pennsylvania, Department of Developmental Studies

Correspondence concerning this article should be addressed to Amber N. Racchini,
Email: amber.racchini@iup.edu

Abstract

This study sought to determine if utilizing an embedded tutor in a liberal studies history course would impact student grades. This course was selected due to its high D/F or W (withdraw) rates; particularly for students who are admitted with an at-risk profile. The researcher analyzed the number of times a student attended tutoring and if there was an impact in the final grade for the course. The researcher discovered that students who utilized the embedded tutoring five or more times earned a higher final grade than students who did not utilize tutoring. This study was conducted in fall 2017 at a four-year, public institution in Western Pennsylvania.

Keywords:

tutoring, academic support, academic success, persistence

Embedded Tutoring: One Initiative to Help Struggling Students

Throughout the last 50 years, there has been an intentional commitment to increase the opportunity for students from diverse backgrounds to attend college. The influx of students enrolling in college has led to a greater number of students who are under-prepared; therefore, there are more students placing into developmental coursework. According to the National Center for Education Statistics (2016), 39.6% of students attending a four-year institution enroll in one or more developmental courses. Often placement into a developmental course increases the number of classes a student needs to take in order to graduate and delays graduation. The U.S. Department of Education (2017) reported that full-time, bachelor's degree seeking students who take a developmental course are 74% more likely to drop out of college than students who do not need developmental courses. Additionally, only one out of 10 students who take developmental courses complete their degrees on time (U.S. Department of Education, 2017). Due to these trends, institutions are being pushed to increase the retention rates and decrease the time-to-degree completion for these students. Furthermore, university administrators recognize that it is more effective and less costly to retain current students than to continuously locate, recruit, and enroll new first-year and transfer students (Delicath, 1999).

It can be difficult for institutions to determine what initiatives to implement in order to help at-risk students succeed. According to Miller (1990), research suggests that early attention and intervention is needed for at-risk students to be successful; however, specific interventions are not identified. There have been many interventions utilized to improve the completion rates of students

Embedded Tutoring: One Initiative *continued*

enrolled in developmental courses including linking courses, using conceptualization as a teaching tool, and providing academic support such as tutoring and Supplemental Instruction (SI).

Research demonstrates that there is a relationship between students who use student support services and first to second year persistence, improved grade point average, and degree completion (Bean & Eaton, 2001). Although we know that using support services early and often can assist with student success, it can be difficult to get students to utilize these resources. According to Zimmerman (2000), at-risk students have difficulty seeking out help and may not be aware that they are struggling until it is too late in the academic semester. Therefore, offering academic support programs that are embedded in courses with high fail rates could encourage regular participation beginning at the start of the semester.

On this researcher's campus, SI is offered for approximately 20 course sections per semester. The courses are selected based on high rates of students earning a D/F or W (withdraw). SI has traditionally been offered in gateway courses in chemistry, anatomy, physiology, and microbiology. For the past 10 years, students who attended SI five or more times earn on average .75 of a letter-grade higher than their peers who did not attend. The SI Leaders are paid to attend class, to facilitate two one-hour sessions per week, and to participate in a weekly one-hour staff meeting. Additionally, SI Leaders are paid for 1.5 hours of planning time for each session. On average it costs \$950.00 to offer SI for each course. The SI Leaders are paid minimum wage at \$7.25 per hour. Although SI has a positive impact on our science-based courses, we have found it difficult to implement in other courses with high D/F/W rates. Factors that impacted the feasibility of offering SI included costs, lack of student attendance when piloting SI in non-science-based courses, faculty buy-in, and the rigidity of the SI model. In an effort to combat these issues, this researcher created an Embedded Tutoring Model to pilot in a liberal studies history course. On this researcher's campus, students often find themselves struggling to pass many liberal studies courses including history, which historically has a D/F/W rate of 20% or higher. Since each course section focuses on a different aspect of American History, it can be difficult to hire a student who is proficient and comfortable serving as a tutor for

every section (during any given semester there can be 10 or more faculty teaching this course). Since SI has not worked in non-science-based courses on this researcher's campus and it has been difficult to hire a walk-in tutor, this researcher needed to explore another option for offering academic support for this course. This study examined if utilizing an embedded tutor in a liberal studies history course would positively impact student grades and course completion.

Relevant Literature

Academic support programs are classified based on the extent by which they are responsive to the various needs of students and to the degree that they are supported and integrated into the campus (Keimig, 1983). According to Keimig's (1983) Hierarchy of Learning Improvement Programs, there are four different types of programs.

Table 1.
Hierarchy of Learning Improvement Programs

Levels of Integration	Peer Cooperative Learning Programs	Likelihood of Improved Student Outcomes
Level Four: Comprehensive learning system in the course	Emerging Scholars Program, Peer Assisted Learning, Peer-Led Team Learning, Video-based Supplemental Instruction	High
Level Three: Course-related supplementary learning activities	Accelerated Learning Groups, Structured Learning Assistance, Supplemental Instruction	Above Average
Level Two: Learning assistance to individual students	Tutoring	Below Average
Level One: Isolated courses in remedial skills		Low

Note. Keimig's (1983) Hierarchy of Learning Improvement Programs. Adapted from "Postsecondary Peer Cooperative Learning Programs: Annotated Bibliography 2018," by D. Arendale, 2018, Unpublished manuscript, p. 7. Copyright 1983 by Department of Curriculum and Instruction, University of Minnesota, Minneapolis, MN.

The first level consists of offering isolated courses that teach developmental skills. The second level provides

Embedded Tutoring: One Initiative *continued*

learning assistance to individual students. The third level provides activities outside of the classroom that supplement the material being taught in class. The fourth level includes a comprehensive learning system within the course. The programs at the top of the hierarchy have a higher likelihood of improved student outcomes; however, they are also the most demanding of institutional resources and oftentimes require changes in the campus culture in order to implement (Keimig, 1983). The third level includes programs such as SI, which typically yield higher student outcomes than one-on-one tutoring or enrollment in isolated developmental courses (Arendale, 2018). SI is a peer-facilitated learning enhancement model designed to impact the way students learn difficult content in a specific course. The SI Leader is a student who has demonstrated proficiency in a targeted course and undergoes extensive training to plan effective SI sessions. In most cases, the SI Leader attends the class to keep up with course content and model effective student practices and attitudes. The SI Leader plans and facilitates two or more SI sessions per week. During these sessions, the SI Leader engages students using interactive learning strategies, which encourage involvement, comprehension, and synthesis of subject content (International Center for Supplemental Instruction, 2014).

Numerous studies demonstrate the impact of SI on individual course grades, course pass rates, and persistence and graduation rates (Dawson et al., 2014). According to Altomare and Moreno-Gongora (2018), between Fall 2015 and Spring 2017 it was found that grade performance for students who participated in SI for both Beginning Algebra and Intermediate Algebra was statistically significant. In addition, the pass rate was higher in accelerated sections of Intermediate Algebra where SI was utilized. A study conducted by Hodges et al. (2001) found that students who attended SI on a voluntary or required basis earned significantly higher course grades in a freshmen-level, writing-intensive U.S. History course than peers who did not utilize SI. Additionally, a study at an urban community college in Dallas, TX indicated that 83 % of students who regularly attended SI for a general psychology course earned a C or higher versus 64% for those students who did not attend SI (Goomas, 2014). Although the literature shows that SI can produce positive outcomes for students, it can be difficult to implement based on costs, time commitment for the SI leader, faculty buy-in, and rigidity of the

program. Institutions often look for other models that can provide similar outcomes but are more cost effective and flexible.

One option that can be utilized is an Embedded Tutoring Model. There is not a clear definition of how this model is constructed; however, it can serve as a hybrid between traditional tutoring and SI. Depending on how the model is designed, peer tutors attend class and assist within the lecture as well as offer tutoring outside of class several hours a week. The literature on the impact of utilizing an embedded tutor is sparse. One campus utilized an embedded peer tutor in three courses and had experimental and control groups for each section. In two out of the three courses, the mean grades for those who attended tutoring were higher (Chester et al., n.d.). According to Vick et al. (2015), students enrolled in an Introduction to Psychology course who utilized an embedded tutor had a course pass rate of 88% compared to 76% for students who did not attend tutoring.

Research demonstrates that making a connection with a peer can increase the likelihood that a student is retained (Tinto, 1993). Embedding a tutor into a specific class helps students gain familiarity with the tutor and can help the students establish a relationship. Promoting a relationship between the tutor and student is a factor that leads to greater retention and supports students who are at-risk (Maggio et al., 2005). Often at-risk students do not ask for help until it is too late. Providing access to a tutor within the classroom gives students access to academic support without having to seek it out. Another factor that contributes to the success of students is seeking out academic support early and often. Munley et al. (2010) conducted a study that examined the numbers of hours of tutoring utilized and the impact on final course grade. Students who utilized 10 or more hours of tutoring during a semester had a positive grade change and those attending 20 hours or more earned a full letter grade higher than their peers.

Course embedded tutoring may be a suitable option for institutions that are not able to implement a comprehensive learning system or the SI model. It is imperative that institutions find an academic support model that is financially feasible and that meets the needs of their students and faculty. This study sought to determine if offering an embedded tutor in a liberal studies history course could generate similar results to the

Embedded Tutoring: One Initiative *continued*

SI program that has been in existence at this institution for over a decade.

Research Questions

1. Is there a difference in grades for students who utilized the embedded tutor versus those who did not?
2. Would the percentage of students who regularly attend (five or more times a semester) embedded tutoring be higher than the percentage of students who regularly attend SI?

Methodology

Historically students at this institution have difficulty earning a C or higher in many liberal studies courses including history, which has high D/F and W (withdraw) rates. As a result, the researcher collaborated with the history department to embed a tutor in three sections of a U.S. History course. All three sections were taught by the same faculty member.

The embedded tutor was recommended by the faculty member teaching the U.S. History course. The recommended student had previously earned an “A” in the course, possessed an interest in helping others learn (education major), and had an established relationship with the faculty member. Upon successful completion of an interview, the student was hired as an embedded tutor. The tutor also completed the institution’s training program for the College Reading and Learning Association’s Level One Certification. The training program consisted of two, one-half day sessions and all content was delivered face-to-face. It started by defining the role and responsibilities of a tutor and discussing how tutoring differs from SI. The training then covered the tutor cycle and modeled how to conduct a tutoring session. This portion of the training was reinforced by having the tutors role play with one another while receiving feedback from the training facilitator. The first day of training ended with an overview of learning preferences and how to incorporate study strategies into a tutoring session. The second day of training focused on communication skills and active listening. The training continued by discussing the dos and don’ts of a tutor session as well as a review of ethical considerations. To reinforce application of these concepts, the tutors were provided scenarios and asked how they would respond.

The second day of training ended with an overview of campus resources and when and how to make referrals. The tutor training took place the first week of the semester, so that tutors were ready to begin working by week two. This training program provides flexibility compared to the SI Leader training. Supplemental Instruction Leaders are required to take a one-credit course the semester prior to when they begin working. The SI Leaders must pay for the course; however, it does count as a free elective toward graduation. The training course covers the history of SI as well as the fundamental principles that are incorporated into SI sessions including redirecting questions, wait time, and checking for understanding. The SI Leader training also incorporates an overview of student development theory. In order to apply this information, the SI Leaders are required to analyze their development in relation to the theories discussed. The SI Leaders are taught about the principles of collaborative learning strategies and how to incorporate them into an SI session. There is some overlap between the tutoring training and SI Leader training such as an overview of learning preferences, communication skills, active listening, ethical considerations, and campus resources.

The embedded tutor routinely attended one section of the U.S. History course, although students from all three sections could attend tutoring. The embedded tutor was introduced to the additional two sections and attended their class section periodically throughout the semester so that the students had a familiarity with the tutor. This approach was utilized so that the students could develop a rapport with the tutor and so that the tutor was familiar with the specific content that the faculty member discussed during the lecture. While attending the class, the tutor demonstrated effective student behaviors and successful academic habits. During class discussions, the embedded tutor offered the perspective of an experienced student. The embedded tutor also assisted individual students who needed support during in-class activities. The SI Leaders are utilized in the same capacity in the classroom. In addition to assisting in class, the embedded tutor offered walk-in tutoring hours two times a week for two hours each session. During the walk-in tutoring hours, students could meet with the tutor in order to address specific questions that they had about content from the textbook and lectures. The tutoring generally occurred in a small group format where the tutor utilized the Socratic Method in order to

Embedded Tutoring: One Initiative *continued*

meet students where they are and guide them to a higher level of understanding.

Every student who attended tutoring completed a contact form and their information was recorded on a tracking sheet for the Tutoring Center. At the end of the semester, the tracking sheet was analyzed to determine who received tutoring and the number of sessions attended.

Participants

The participants in the study included 116 students who were enrolled in three sections of the U.S. History course. One of the sections of the U.S. History course was offered to students who were part of a Promising Scholars Program (high achieving students with low socioeconomic status); another section consisted of students who randomly enrolled in the course; the third section included students who randomly enrolled in the course and 19 students who were admitted with an at-risk profile (SAT score below 850 and/or a high school GPA below 3.0). These 19 students were enrolled in the U.S. History and a linked section of a developmental reading course.

A convenience sample of students was used. The students who sought tutoring were all enrolled in one of the three sections of the U.S. History course. All students who utilized the embedded tutor during the walk-in tutoring hours were counted in the study.

Data and Results

Data Collected

When a student attended a session with the embedded tutor, they would complete a contact form and the graduate assistant for the Tutoring Center would enter the information into an Excel spreadsheet. At the end of the semester, the final grades for the students enrolled in the U.S. History course were analyzed. The total number of times a student attended tutoring was recorded next to their final grade. The number of times a student attended tutoring was coded and labeled for zero times, one to four times, and five or more times. These categories were utilized so that the results could be compared to the data that has been captured for the SI Program on this researcher's campus. These are the categories that

are identified by the University of Missouri-Kansas City (UMKC) model for SI. In order to develop these categories, The International Center for Supplemental Instruction surveyed many of the long-standing, high-quality programs (two-year and four-year) that they had worked with over the years, and this was the most common breakdown used by these programs (M. Cross, personal communication, December 6, 2019). For classes that follow the four tests and a final exam model, the one to four group captures students who came very few times and/or right before exams. The five or more group participate more than just before the exams, and in a 16-week semester, they average attendance approximately every other week. An additional group has recently been identified by the International Center, which is those students attending SI 10 or more times. These are the students who regularly attend SI. Beginning in Spring 2020, this researcher will begin analyzing data using the recently added group. The International Center set these standards as a guide for practice for other programs, but mostly so that their data reporting standards have consistency (M. Cross, personal communication, December 6, 2019). The data from this researcher's study was imported into SPSS for analysis.

Findings

There were 116 students enrolled in the U.S. History course. Twenty-nine students earned an "A", 50 students earned a "B", 22 students earned a "C", six students earned a "D", and nine students earned a "F" or "W". Overall, the sections that offered an embedded tutor had a D/F/W rate of 13%.

Table 2.
Final Grade in U.S. History Course with Embedded Tutor

Letter Grade	Number of Students	Percent of Class
A	29	25.0
B	50	43.1
C	22	19.0
D	6	5.2
F/W	9	7.8

There were 593 students enrolled in other sections of U.S. History where an embedded tutor was not offered. One hundred and eighty-two students earned an "A",

Embedded Tutoring: One Initiative *continued*

179 students earned a “B”, 115 students earned a “C”, 48 students earned a “D”, and 69 students earned a “F” or “W”. Overall, the sections that did not offer an embedded tutor had a D/F/W rate of 19.7%.

Table 3.
Final Grade in U.S. History Sections without Embedded Tutor

Letter Grade	Number of Students	Percent of Population
A	182	30.9
B	179	30.2
C	115	19.4
D	48	8.1
F/W	69	11.6

Fifty-five students enrolled in the U.S. History course with the embedded tutor attended tutoring at least one time. Nineteen students earned an “A”, 26 students earned a “B”, eight students earned a “C”, one student earned a “D”, and one student earned a “F” or “W”. The D/F/W rate for students who utilized the embedded tutor was 4.4%.

Table 4.
Final Grade for Students Who Utilized the Embedded Tutor

Letter Grade	Number of Students	Percent of Population
A	19	34.5
B	26	47.3
C	8	14.5
D	1	2.2
F/W	1	2.2

Eighteen students, or 15.5%, attended tutoring five or more times, 37 students, or 31.9%, attended tutoring one to four times, and 61 students, or 52.6%, did not attend tutoring. Students who attended tutoring five or more times on average earned a grade of 3.61 versus students who did not attend tutoring on average earned a grade of 2.38. The data indicated that students who received an A in the class went to the tutor, on average, 3.027 more times than those students receiving an F, 2.411 more times than those students receiving a C, and 1.838 more times than those students receiving a

B. Of the 19 students who were admitted with an at-risk profile (SAT score below 850 and/or a high school GPA below 3.0) and were enrolled in the U.S. History and a linked section of a developmental reading course, eight students, or 47.4%, attended tutoring one to four times, and 11 students did not attend tutoring. The eight students who attended tutoring one to four times, on average, earned a 1.56 higher grade than the 11 students who did not attend tutoring.

Table 5.
Number of Times Attended Tutoring by Section and Grade

Times Tutoring	Section	Mean	Std. Deviation	Number
Zero	1/3 Developmental Reading	2.00	1.323	33
	Promising Scholars	3.06	.873	18
	Random Enrollment	2.40	1.075	10
	Total	2.38	1.240	61
1-4	1/3 Developmental Reading	2.72	.752	18
	Promising Scholars	2.71	1.380	7
	Random Enrollment	3.17	.577	12
	Total	2.86	.855	37
5 or More	1/3 Developmental Reading	3.56	.726	9
	Promising Scholars	3.60	.548	5
	Random Enrollment	3.75	.500	4
	Total	3.61	.608	18
Total	1/3 Developmental Reading	2.45	1.227	60
	Promising Scholars	3.07	.980	30
	Random Enrollment	2.96	.916	26
	Total	2.72	1.131	116

A two way between-group analysis of variance was conducted to determine if the number of times a student attended tutoring and the section they were enrolled in had an impact on their final course grade. The number of times a student utilized the embedded tutor was divided into three groups (five or more times, one to four times, and zero times). There was a statistically significant main

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effect for number of tutoring visits $F(2,107) = 7.831$, $p = 0.001$. A post-hoc analysis (Tukey) revealed that students who attended tutoring five or more times had a 1.23 higher grade than those who attended zero times and a .75 higher grade than those who attended one to four times. The interaction effect between sections and number of tutoring visits was not statistically significant $F(4,107) = 1.417$, $p = .233$. Essentially the course section did not impact students' final grade; however, attending tutoring five or more times has a statistically significant impact regardless of section.

Table 6.
Multiple Comparisons Tukey HSD
Dependent Variable: Grade Final Grade

(I) Number of Times Attended Tutoring	(J) Number of Times Attended Tutoring	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Interval Upper Bound
Zero	1-4	-.49	.211	.059	-.99	.01
	5 or more	-1.23*	.272	.000	-1.88	-.59
1-4	Zero	.49	.211	.059	-.01	.99
	5 or more	-.75*	.292	.032	-1.44	-.05
5 or more	Zero	1.23*	.272	.000	.59	1.88
	1-4	.75*	.292	.032	.05	1.44

Note. The mean difference (*) is significant at the .05 level.

Limitations

The main limitation of the study is that it has not been done in true experimental format; not all of the students were randomly assigned to the three sections of U.S. History and there was not a control group. This study does not control for pre-college characteristics nor does it utilize a pre and post-test. In regard to the random assignment, two of the sections that were included in the study had students that were assigned based on admission criteria (Promising Scholars and students who were admitted with an at-risk profile and placed into a developmental reading course). Therefore, it is difficult to demonstrate a causal relationship between utilizing an embedded tutor and their final grade. This analysis also examines only the first semester of data for a pilot project that began in a fall semester.

Discussion and Future Research

The statistical analyses support the use of an embedded tutor in the U.S. History course. On this researcher's campus, students who attended SI five or more times on average earned .72 of a letter-grade higher than their peers. The results for using an embedded tutor produced 1.234 of a letter-grade higher. The D/F/W rate for students who utilized the embedded tutor was 4% whereas the D/F/W rate for student who did not utilize the tutor was 20%. In addition, eight (42%) of the 19 students, who were enrolled in a linked developmental reading course, utilized the embedded tutor. Those students earned a 1.56 higher grade than the 11 students who did not attend tutoring. This initial data suggests that embedded tutoring could be an alternative method of offering academic support to at-risk students as well as students enrolled in courses with a high D/F/W rate. In addition, to offer SI for each course has an average cost of \$950.00 while utilizing an embedded tutor has an average cost of \$660.00.

Data from the SI Program indicated that 389 students attended SI five or more times. This is 32% of the total student enrollment for the 20 sections where SI is offered. This data showed that the percent of students who attended SI five or more times was higher than the percent of students who utilized the embedded tutor. In order to increase the percentage of students who utilize the embedded tutor in the future, the results from the pilot semester will be utilized to market the effectiveness of attending tutoring. In addition, a student who utilized the embedded tutor during the pilot semester and earned an "A" in the class, will be hired to serve as the embedded tutor for the following semester.

The main strength of this study is that it provides an alternative academic support initiative that can be utilized in courses that have D/F/W rates. This model is more cost effective and yields similar results to the SI model. Moving forward, additional classes with high D/F/W rates will be identified. The researcher will solicit buy-in from the faculty member(s) teaching these courses and an embedded tutor will be implemented. This study demonstrates the impact of utilizing embedded tutoring and this data can be utilized to solicit additional funding to expand the program.

Embedded Tutoring: One Initiative *continued*

For a future study to better assess the impact of an embedded tutor, a pre-test and post-test measure could be utilized to see if the students with an embedded tutor had a better “gain score” rather than only utilizing the final course grade. Also, all students should be randomly assigned to the sections that are utilizing an embedded tutor or the students in the sections should be grouped by a stable variable such as SAT score, high school grade point average, or score on the reading placement test. In addition, a longitudinal study should be conducted to determine if the students who utilize embedded tutoring and SI continue to do so in future semesters and if using these academic support programs correlate with their GPA, retention, and graduation rates.

Conclusion

This study showed that students who regularly utilized an embedded tutor outperformed their peers. Due to the cost savings, flexibility of the model, and positive impact on students’ final grades, an Embedded Tutoring Model is a viable option to support courses that have high D/F/W rates. Additional research is needed in order to refine the Embedded Tutoring Model and implement it in additional courses. Regardless of the academic support model that is utilized at your institution, we have a responsibility to provide a tutoring program that meets the needs of all of our students.

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TEACHING REPORTS

Critical Thinking and Discussion Boards in Undergraduate Research Methods

—Jessica L. Hartnett,

Gannon University, Department of Psychology,

—John E. Edlund

Rochester Institute of Technology, Department of Psychology,

Correspondence concerning this article should be addressed to Jessica Hartnett,
Email: hartnett004@gannon.edu

Abstract

Electronic message boards are widely available across a variety of Learning Management Systems and used in a variety of college classes. The present study researched whether or not this popular tool increases critical thinking, an outcome measure considered important by most colleges and universities. In this study, students in a face-to-face psychology research methods class discussed and reflected upon seven popular science readings or videos about a topic related to research and statistics. We found gains in participant perceptions of critical thinking skills, but the exercise did not improve their attitudes about critical thinking. Implementation of this exercise in other courses is also discussed.

Keywords

Critical thinking, research methods, message boards, teaching of psychology

Critical Thinking and Discussion Boards in Undergraduate Research Methods

Critical thinking has been defined many times and across many disciplines. A leading philosopher offers that critical thinking is reasonable and reflective thinking focused on deciding what to believe or do (Ennis, 2011). Other definitions of critical thinking have focused on the reasoning employed and the reduction of bias (Heijltjes, et al., 2015). For our purposes in this paper, we will define critical thinking using the broad, specifically cross-disciplinary definition offered by Duron et al. (2006): [Critical thinking is] the ability to analyze and evaluate information. More recently, Stuppel, et al. (2017) have specified three components of critical thinking: avoidance of critical thinking, increase positive attitudes towards critical thinking, and increase confidence in critical thinking.

Critical thinking skills are important to undergraduate college students, both while they are in college and as they seek employment after college. During their college years, integrating and encouraging critical thinking in undergraduate education is a stated goal of the many disciplines. The National Education Foundation (2011) believes that critical thinking represents one of their pillars of education in the 21st century. Critical thinking skills also serve our students well in the workplace. The National Association for Colleges and Employers finds that 80.9% of employers want job candidates to have evidence or problem-solving skills on their resumes and 71.9% want their hires to have analytic skills (NACE Staff, 2018).

Critical Thinking *continued*

As such, college instructors should help build these skills in their students. While there are many ways to do so, the present research tested whether or not students enrolled in a research methods class improved their critical thinking skills by reading popular press news stories that involve research in applied circumstances, answering questions about the stories, and then discussing the reading with classmates via electronic discussion board. Next, we discuss previous research that has studied class discussions, both face-to-face and online and how discussions can improve student learning in a variety of ways, including by improving critical thinking skills.

Class discussion as a way of increasing critical thinking skills.

Classroom Discussion

Interactive discussions within the classroom are one way to engage student critical thinking. Class discussion is a broad label for classroom interactions that involve a variety of different ground rules, prompts, and goals. As opposed to the “sage on the stage” approach, small group discussions can better help students engage in new ideas and information, and improve critical thinking skills (Jones, 2014). Yang et al. (2005) have also demonstrated that in a large classroom, Socratic questioning could be used to improve critical thinking when supplemented with the assistance of teaching assistants trained in critical thinking skills. Anderson (1992) has also demonstrated that discussion prompts (in this case, feature films) can be used to facilitate critical thinking in a psychology and the law class.

Certainly, face-to-face discussions in the classroom are valuable for a number of reasons. However, with the increasing use of Learning Management Systems in higher education (Dahlstrom et al., 2014), a logical next step is to test for similar outcomes while using online discussion boards.

Online Discussion Boards and Critical Thinking

Online discussions boards have been used in higher education for some time and are a very common feature for most learning management systems (such as D2L, Blackboard, etc.). Previous research has demonstrated a wide array of learning gains when using online discussion boards: They can encourage student engagement in large classes (Wang, Shen, Novak, & Pan, 2009), facilitates

assessment of student progress and comprehension via better documentation (Bryant, 2005), and positively correlated with GPA (Krentler & Willis-Flurry, 2005). Research studying the use of discussion boards in “blended classes” (classes that have both face-to-face and online components) found that supplemental online discussion can encourage higher order thinking (Meyer, 2003). Sheen et al. (2019) used discussion boards in an abnormal psychology class. Compared to a control group, students who completed discussion boards rated their own learning outcomes as higher, and also received higher exam scores.

In addition to the educational outcomes described above, online discussion boards specifically increase critical thinking skills in students. For example, Yang, et al. (2005) found success using Socratic questioning techniques in online discussion boards to increase critical thinking skills and Kalelioğlu and Gülbahar (2014) extended these findings to several different question formats. Although there is some research available regarding the use of electronic discussion boards, including research addressing the use of discussion boards to encourage critical thinking (Greenlaw & DeLoach, 2003, Morrison et al., 2012). As of yet, no one has specifically studied how discussion boards may encourage critical thinking within a face to face research methods class. Nor have we found empirical examples that use popular science writing in order to generate such discussions. The present research describes discussion boards assignments used to increase critical thinking about statistics and research among students taking either statistics or research methods classes. Each assignment involved answering questions after reading an article or video available for free online.

The present research predicted that the use of discussion boards would increase critical thinking skills. We hypothesized that exposure to the discussion boards and discussion board prompt materials, and interacting with their classmates would decrease avoidance of critical thinking, increase positive attitudes towards critical thinking, and increase confidence in critical thinking.

Method

Participants

32 students in an Experimental Psychology course at a large private university participated in this study. The

Critical Thinking *continued*

control group ($n = 20$) participated in a Fall semester, whereas the experimental group ($n = 12$) participated in a Spring semester. All students were taught by the same professor who had taught the course multiple times in previous semesters.

Procedure

During the first week of the semester, all students completed the Critical Thinking Toolkit for Psychology (CriTTTPsych; Stupple, et al., 2011). The CriTTTPsych measures three components associated with critical thinking. Specifically, the CriTTTPsych assesses confidence with critical thinking, the perceived value of critical thinking, and avoidance behaviors of critical thinking.

In the experimental section, participants completed the critical thinking discussion board. These exercises were a graded component of the class of 7.5% of the final grade in the class. Starting in the second week of the class, students were required to read the week's article/video, and respond to the questions posed on the discussion board by the professor (see Table 1 for a list of the readings as well as a brief description of the statistical/research method). Three days later, students needed to respond to at least one other student's comment. The comments were individually graded by the professor and feedback was provided to the individual students on their responses (focusing on issues related to critical thinking). In the end, students responded to eight different critical thinking prompts (see Appendix for the individual sources and prompts). In the control section, the course proceeded as had been done in previous sections (where critical thinking was regularly included in the course, but not including the discussion board).

At the end of the semester, all students completed the CriTTTPsych a second time. Additionally, the experimental group completed a survey that assessed their attitudes related to the critical thinking discussion board. This survey used a 7-point Likert scale as its response format. Additionally, in an attempt to verify that no extraneous variables were different between the semesters, we compared student grades across the semesters. There was no difference in overall course grades between the semesters $t(30) = 1.26, p = .218$.

Results

Students in the experimental section scores significantly higher on the comfort with critical thinking subscale at the end of the semester than they were at the start of the semester; students in the control semester did not show a similar improvement; $F(1, 25) = 5.006, p = .034, \eta_p^2 = .167$. See Table Two for the full means and standard deviations. This provides suggestive evidence that the critical thinking discussion board uniquely improves subjective sense of comfort with critical thinking activities beyond the gains experienced in the control group.

Looking at the value of critical thinking subscales of the CriTTTPsych, experimental condition students did not change their attitudes towards critical thinking relative to the control group, $F(1, 25) = 0.64, p = .802, \eta_p^2 = .003$. Additionally, there was no significant change in avoidance of critical thinking; $F(1, 24) = 0.28, p = .603, \eta_p^2 = .011$. Despite the success in making the students more comfortable with critical thinking, we did not change students' perceptions of the value of critical thinking or their avoidance of critical thinking. This might suggest that our exercise is simply not powerful enough to change these aspects of critical thinking; conversely, it also might suggest that these attributes of critical thinking are more akin to personality variables which would be much more difficult to change in a single semester based exercise.

We also looked at student reactions to the critical thinking discussion board in an exploratory fashion. On a seven-point Likert-style response scale, students reported that they did not particularly enjoy (nor dislike) the exercise ($M = 4.00, SD = 1.49$); students reported that the exercise made them more comfortable with critical thinking ($M = 5.40, SD = .97$); and that they were ambivalent of whether other courses should use the exercise ($M = 4.20, SD = 1.54$).

Finally, we explored whether there were differences in instructor evaluations across the sections. Although the experimental section had somewhat higher evaluations ($M = 4.14, SD = 0.38$) than the control section ($M = 3.71, SD = 0.85$), the differences were not statistically reliable $t(22) = 1.22, p = .21, \eta_p^2 = .11$.

Critical Thinking *continued***Table 1**

Discussion prompts and brief description of statistical/research method topics discussed along with the specific questions posed.

Discussion Prompt	Statistical/ Research Method Topic	Specific Prompt
The littlest tasters (Arumugan, 2012)	The ethics of performing market research with children. Methods used in developmental research	Read the following article. http://www.slate.com/articles/life/future_tense/2012/06/consumer_taste_tests_for_children_how_food_manufacturers_tailor_research_to_the_very_young_.html Please respond to these questions: Personally, do you think there are any ethical concerns with marketing towards children? Why or why not? Other than children, in what situations do you think non-verbal scales might be useful? Be specific. Think of an experiment you could do using the research methods described in the article. Respond to the postings of two of your classmates. If you do not agree with their point of view, explain why.
The best data you've ever seen (Rosling, 2006)	Data driven decisions, international health data, data visualization	Hans Rosling is a physician and statistician and his passion is international public health. Watch the following lecture from TED.com. http://www.ted.com/talks/hans_rosling_shows_the_best_stats_you_ve_ever_seen.html Please respond to these questions: What do you think of Rosling's point of view? Do you think that he hits on genuine concerns for public health? Who are some stakeholders who should be interested in Rosling's data. Why? What are some of the advantages to displaying the data in the manner generated by mindthegap?
Some medical tests, procedures do more harm than good (Begley, 2010)	Program evaluations, counter intuitive research findings, medical interventions	Read the Sharon Begley's cover story from Newsweek entitled, "One word can save your life: No!": http://www.thedailybeast.com/newsweek/2011/08/14/some-medical-tests-procedures-do-more-harm-than-good.html Please respond to these questions: Find one example from the article that describes a Type I error (a true null hypothesis was reject). Why do you think the research is being ignored? Describe two STUDIES (not anecdotes) that support Begley's argument. How strong are these arguments and WHY. In general, what kind of medical interventions does the article seem to advocate? Why do you think it is that doctors don't champion such interventions and instead advocate more invasive procedures? How is this related to "mission creep"? What do you think needs to be done to better convey data to physicians and get them to change their ways? Can you think of any boundaries that might be keeping the newest data from getting to physicians? What implications do you think this information would have for psychology?
About 40 percent of American women have had abortions: The math behind the stat (Kliff, 2010)	Statistics used in arguments, finding flaws in descriptive statistics	Abortion Data http://www.newsweek.com/blogs/the-human-condition/2010/03/04/about-40-percent-of-american-women-have-had-abortions-the-math-behind-the-stat.html **To be clear, this Discussion Board isn't about Pro-Life/Pro-Choice opinions! It is about thinking critically. This article is a response to a previous written article about the stigma associated with abortion. In it, the author claimed that 40% of American women have had abortions. In this response piece, she clarifies how she got to that 40% mark. Read through her description of her method for attaining 40%. Respond to the following questions How does this article encapsulate problems associated with using data to defend arguments? Name a flaw in her math/research design/sampling/etc. that leads her to 40%. How else could you improve this study/reporting of the data? Look up the source of this data. Do you think this could influence the research study? What factors (social, political, psychological etc.) could influence this data to lead to a higher reported rate? What factors (social, political, psychology etc.) could lead to a lower reported rate?

Critical Thinking *continued*

Discussion Prompt	Statistical/ Research Method Topic	Specific Prompt
Data linking aspartame to cancer risk are too weak to defend, hospital says (Aubrey, 2012)	Type I Error, issues related to media interpretations of experimental research	Popularity of movies, actors, and directors based on data. Read the following story from slate.com. It is all about the website RottenTomatoes.com and how it can be used to rate the popularity of films, their stars, and their directors for individual movies but also to watch trends over time. http://www.slate.com/articles/arts/culturebox/2011/06/slates_hollywood_careeromatic.html Please answer the following questions: According to this article, where does the data (ratings) come from? Does this seem like a reliable source of data to you? Why or why not? What other information needs to be taken into account? Do you think that calling this a “career-o-matic” is accurate? Why or why not? Have you ever heard of the best actress or actor listed in the article? Do you think that a rotten tomato rating is the only way to measure an actor’s or actor’s abilities to perform in good movies? Look at the table describing the average career trajectory for actors and for directors. Why do you think this is? What does it say about an actor or director’s ability to improve over the course of a career? Why do you think this is? What does it say about acting skills versus director skills? How do you think actors/movie studios could use this data when negotiating contracts? Do you think that is an appropriate use of the data? What important information is not taken into account when using this data to negotiate a contract? **For fun, you can look up your favorite stars using the “Hollywood Career-o-matic at the bottom of the page to see how they are faring in their career. Psst...Lindsay Lohan’s graph looks just as erratic as her personal life.**
Data Mining: How companies now know everything about you (Stein, 2011)	Data mining, data collection via internet, consumer behavior	Up until this point, we’ve discussed using statistics within the context of a research question. So, we collect data then conduct specific, predetermined statistics. But what about running stats, after the fact, on huge piles of data to uncover patterns? This is called data mining. One famous (in certain circles) examples can be found in the book Freakonomics, by economist Steven Levitt. Here is a video of Levitt explaining data mining to Stephen Colbert: http://www.colbertnation.com/the-colbert-report-videos/79141/december-05-2006/steven-levitt Here is a Newsweek article on how companies data mine about you, the consumer. http://www.time.com/time/magazine/article/0,9171,2058205,00.html Please answer the following questions: Look at the advertisements generated on your Facebook profile. What has data mining uncovered about you based on the advertisements? From the article, does FB actually sell you data? How does it use your data with advertisers? How would you feel about the Zappo’s approach to advertising? Has this happened to you? Do you think it is creepy or helpful? Why? What do you think of the article’s descriptions federal legislation to regulate data mining? Are you in favor or against? Why?
Jonathon F. Mueller’s “Correlation or Causation” website (Mueller, 2014)	Determining whether journalists present correlational data as correlational or causal	Correlation vs. Causation This week, you will explore Jonathon Mueller’s website dedicated to identifying poor journalistic interpretations of science. Specifically, he looks for examples where journalists make causal arguments using correlational research. http://jfmuellet.faculty.noctrl.edu/100/correlation_or_causation.htm I want everyone to pick a different article (please state the name of your article in the title of your posting, first come, first serve) and state whether Is the article title is causal or correlational and why? Is the actual research is causal or correlational and why? What are the implications of any errors in the source article? How could your article have been written better? **For giggles and grins: http://www.businessweek.com/magazine/correlation-or-causation-12012011-gfx.html

Critical Thinking *continued*

Table 2
Means and Standard Deviations For Overall Gains on the
CriTTTPsych scale

	First week assessment	Last week assessment
Experimental Group	62.27 (11.64)	53.45 (10.37)
Control Group	61.25 (20.25)	61.61 (21.00)

Note: Lower numbers indicate a greater comfort with critical thinking

Control Class (n = 12)

Before		After		<i>t</i>	<i>p</i>
<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
74.25	5.14	74.75	5.24	-0.48	0.64
38.75	23.87	41.50	23.94	-0.58	0.57
74.58	7.53	76.67	5.37	-1.60	0.14
78.50	10.89	78.25	9.40	0.13	0.90
77.42	4.46	76.67	6.53	0.37	0.72
73.17	4.99	72.42	5.40	0.56	0.59
74.75	5.79	73.58	8.50	0.61	0.55
78.17	4.26	79.33	4.66	-0.66	0.25
74.08	7.29	74.08	6.92	0.00	1.00

Experimental Class (n = 31)

Before		After		<i>t</i>	<i>p</i>
<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
75.06	5.38	76.26	2.37	-1.63	0.11
43.29	24.31	48.48	20.79	-1.37	0.18
75.32	7.18	78.06	6.91	-2.37	0.02
80.29	9.41	82.48	7.27	-1.50	0.14
78.41	5.80	79.00	3.73	-0.64	0.53
73.45	6.63	74.10	7.96	-0.41	0.68
74.87	8.35	76.55	8.56	-1.02	0.32
78.77	5.44	80.77	4.90	-2.03	0.05
74.67	7.96	75.19	5.79	-0.21	0.83

Discussion

We demonstrated that gains in critical thinking can be achieved. We demonstrated that student comfort with critical thinking increases as the result of online discussion boards in the context of face-to-face research methods courses. Specifically, we demonstrated that students who completed the online discussion boards experienced objective gains in comfort with critical

thinking abilities, which may encourage greater critical thinking in and outside of the classroom.

The results seen in this exercise are quite encouraging. Critical thinking has consistently been identified as a key issue in the training of undergraduate students (APA, 2013) and the teaching of critical thinking has often been identified as one of the most challenging tasks to accomplish in an undergraduate class (Connor-Greene, 2005). The exercise developed as part of this research improved critical thinking while not being perceived as a burden by the students (which in and of itself is an additional accomplishment).

Another strength of this exercise is its ease of adaptability to different courses. Innumerable, widely circulated news stories are posted online, but suffer from issues of validity, reliability, and applicability. Depending on the content of the articles, they could easily be adapted to any number of classes across different disciplines. In our research, we explored this in psychology; however, this exercise could easily be adapted across disciplines being applicable to Biology, Business, Medical Ethics, or any discipline-specific Research Methods course. Furthermore, the adaptability of the questions and articles would allow for specific critical thinking issues (for example, deduction versus induction) to be focused upon by a particular class or instructor. The format of these assignments also allows for an instructor to cover greater content (including research methods) without sacrificing precious class time.

Our findings certainly do not indicate that these discussion boards are going to lead to massive gains in critical thinking skills. However, given the fact that our discussion boards consisted of seven assignments in one of a student's multiple courses over the semester (with each student having a social life, family obligations, extracurriculars, etc.), we feel that the gains that were demonstrated are noteworthy.

Limitations and Future Directions

The current research studied critical thinking a small sample of students in a research methods class using sample of psychology students. While this might be a narrow swath of all students, these major students were studied in their research method courses. Although a

Critical Thinking *continued*

psychology research methods course was used for this research, it is important to think of the broader reach of research methodology. Research methods classes are offered as an Advanced Placement course for high school students. This course allows students to learn ethical research practice and research methodology (“AP Research,” 2015). At the college level, many different majors require topic-specific research methods courses.

A limitation of the research is the lack of a control section that was exposed to the discussion content but not asked to discuss the discussion content. Perhaps the gains seen in the experimental sections are due to exposure to additional readings (as opposed to the specifics of the material focusing on critical thinking). Although we cannot definitively rule this potential explanation out with the extant data, we believe this explanation is unlikely for multiple reasons. One, the additional work typically consists of brief popular articles aimed at a general audience and a small portion of the course work. Two, studies have shown that the amount of work is not tied into critical thinking gains, rather it is the type of work that matters (Browne & Keeley, 2007). Certainly, future research could rule this potential explanation out by controlling for the amount of work students do in a particular section.

In the future, we think researchers should test these methods in courses outside of psychology. There are many similarities across academic disciplines in the methods employed and we believe it is quite likely that similar gains are likely. Finally, we believe researchers should test whether or not similar gains would be experienced by students in online or blended courses. We suspect that similar gains could be seen across teaching modality (given the largely online nature of the exercise and similar results seen in other types of online courses), but the only way to know whether this would be successful would be to test the exercise in these courses.

Conclusion

This initial study suggests that critical thinking discussion board exercise may improve critical thinking in psychology undergraduates enrolled in a research methods class. This exercise is easily adaptable to a wide variety of classes and teaching modalities.

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PROGRAM REPORT

“Lofty Goals” vs. “I just want my degree, dude”: Tailoring Compressed-Length Courses to Generation Z

—Julie M. Holston

Communication, Fine Arts, and Social Sciences Division, South Mountain Community College

Correspondence concerning this article should be addressed to Julie M. Holston,
Email: julieholston@gmail.com

Abstract

This qualitative study extends existing research by exploring student and faculty experiences in compressed-length courses, including both online and in-person formats, conducted in the humanities, arts, and social sciences (HARTSS) within a community college setting. Additionally, it explores the relationship between the student experience in compressed-length courses and existing learning theory regarding Millennials and Generation Z, and how knowledge of this population's learning characteristics might influence course design and pedagogical choices. Data collected from faculty interviews, syllabi, and a student survey revealed three divergent perspectives where faculty perceptions and attitudes toward compressed-length courses conflicted with student expectations and experiences, highlighting different underlying educational objectives between faculty and students. The implications provide insight into some ways in which Generation Z's perspectives could begin to reshape instructional methodology, scheduling practices, and faculty development.

Keywords:

compressed-length, generational cohort theory, Millennials, Generation Z, post-Millennials, humanities, arts, social sciences, community colleges

“Lofty Goals” vs. “I just want my degree, dude”: Tailoring Compressed-Length Courses to Generation Z

The latest generational cohort, known collectively as Generation Z, has been present on college campuses since 2013. Born between 1995 and 2010 (Dimock, 2019; Seemiller & Grace, 2016) and therefore having never known a world without the internet, post-Millennials (as they are also known) are the first true “digital natives” (Prensky, 2001). This key fact differentiates them from their predecessors, the Millennials, who have dominated the higher education spotlight since the fall of 2000, but many of whom remember a time before the internet and certainly before cell phones and smartphones. In *Generation Z Goes to College*, Seemiller and Grace (2016) explain that while Generation Z students share some traits with Millennials, they differ significantly as a cohort. Generation Z has always had both a virtual and a physical presence, expecting to navigate between the two. They crave hands-on learning immediately applicable to real-world situations, yet because of their lifelong engagement with screens, they often prefer learning independently through online modules, books, and videos. In an interview for *The New York Times* in 2015, post-Millennial UCLA student Hannah Payne characterized her generation as one that “takes in information instantaneously and loses interest just as fast” (Williams, 2015). As educators, we are continually charged with finding ways to keep up.

Generational cohort theory informs this study, especially as it applies to the learning styles, preferences, and expectations of Millennials and Generation Z. Popularized by Strauss and Howe (1991), generational cohort theory, also called generational theory, assumes

Lofty Goals *continued*

that depending on the year in which one is born, people experience different sociopolitical events and circumstances during their formative years, thus shaping their worldviews and attitudes about life. A generational cohort is usually described as spanning about 20 years (the time it takes for a newborn to grow into adulthood), at which time a new generation is born who will experience the world in markedly different ways than their predecessors. The exact beginning and ending dates of each generation, along with the names used to identify them, can vary widely among the literature sources.

The study of generations is a unique hybrid of scholarly literature, which seeks to describe generational characteristics using empirical data, especially in the fields of social sciences, health care, and business; and commercial or non-scientific sources, relying more on anecdotal evidence, observations, and surveys to characterize the economic implications of generational differences for the benefit of marketers and employers. Despite the latter being regarded skeptically by academicians, there are overlaps in their concepts and ideas, and the literature does a delicate dance back and forth incorporating citations from each field.

Generational cohort theory has been used in academia for various purposes, among them determining best pedagogical practices (Prensky, 2001; Twenge, 2013; Wilson & Gerber, 2008), and developing college-wide policies, procedures, and relevant academic supports (Elam et al., 2007; Seemiller & Grace, 2016). Use of the theory increased in popularity with the arrival of Millennials, a highly anticipated and broadly studied generation. As for academic goals in college, Twenge and Donnelly (2016) found that beginning with Generation X and continuing with Millennials, there has been an increasing emphasis on extrinsic motivators such as getting a better job or making more money, and a decrease in intrinsic motivators such as pursuing interests or gaining general knowledge and appreciation of ideas. According to Twenge (2017), Generation Z is primarily concerned with finding a job that they “won’t hate” and will pay the bills. Seemiller and Grace (2017), however, assert that Generation Z is more invested in seeking career satisfaction than in settling for a job that may be lucrative but unfulfilling. Generation Z is characterized as entrepreneurial, preferring to start a business and be their own boss as opposed to working “for” someone

else (News@Northeastern, 2014; Seemiller & Grace, 2016). Both Millennials and Generation Z are said to be concerned about financial stability, but Generation Z prioritizes making a difference in the world or solving a social problem (Seemiller & Grace, 2016). While both generations see college as a path to employment, their decisions may diverge on what kind of path to take. Millennials may be more likely to accept the prescriptive nature of a traditional degree, having been taught to follow rules and to excel academically (Howe & Strauss, 2000). Generation Z values education for the role it plays in their path to employment, but they do not want to waste time or money on courses that will not bring them closer to their goal. They would prefer an a-la-carte experience (News@Northeastern, 2014), limiting their college endeavors to just the required courses and skipping the social aspects of college that previous generations have enjoyed but also paid for, such as residence halls and activity fees (Seemiller & Grace, 2016).

One strategy employed by higher learning institutions to meet the evolving needs of an increasingly diverse, technologically savvy student population is the use of alternative scheduling, which can include evening, weekend, online, and compressed-length courses. *Compressed* length refers to a course that meets for fewer than the traditional number of weeks, yet delivers the same content, meets the same number of instructional hours, and counts for the same number of credits as its full-length counterpart (Kretovics et al., 2005; Sheldon & Durdella, 2009). There are varying terms in the literature for these courses, such as “intensive” (Scott & Conrad, 1992; Seamon, 2001), “time-shortened” (Daniel, 2000), “condensed” (Austin & Gustafson, 2006), “abbreviated” (Anastasi, 2007), and “accelerated” (Lee & Horsfall, 2010; Włodkowski, 2003). The term “compressed” has been adopted for consistency in this study. While some colleges and universities operate on a quarter system with 10-week courses as the norm, about 95% of institutions currently operate on a 15- or 16-week semester system (Bostwick et al., 2019), including those in this study.

Compressed-length courses have long had a relatively positive reception by faculty and students, and the literature goes back at least three decades, to before online and hybrid courses were offered in this format. Faculty have reported that they generally enjoy teaching

Lofty Goals *continued*

in a compressed format (Kretovics et al., 2005), and both faculty and students have acknowledged that they were able to establish rapport more quickly in these courses (Kretovics et al., 2005; Scott, 1995). Krug et al. (2016) found that students were especially in favor of taking compressed courses at the 100 and 200 levels in the areas of general education. Additionally, faculty have observed that students in compressed courses—specifically those offered in summer session—are more focused on learning outcomes, participate more in class discussions, attend class more regularly, and are academically stronger than students in traditional-length courses (Kretovics et al., 2005).

Empirical studies examining the efficacy of compressed courses in terms of student learning have repeatedly demonstrated that final course grades in compressed-length courses are comparable to those in their traditional-length counterparts (Anastasi, 2007; Austin & Gustafson, 2006; Daniel, 2000). In several cases that controlled for other possible variables (Anderson & Anderson, 2012; Geltner & Logan, 2001; Sheldon & Durdella, 2009), student performance was even better in a compressed-length course, as defined by average grades and lower withdrawal rates.

In Logan and Geltner's (2000) study, faculty and students cited several possible reasons why students tended to perform higher in compressed-length courses at that time. They included an increased sense of cohesion between class members, less time to forget class material and discussions, more pressure to complete assignments quickly, and greater persistence because the end was within sight. Logan and Geltner (2000) also speculated that "students just get tired of sustaining high levels of work for long periods of time." They posited that a 16-week semester allows more time for life events to intervene or for students to fall behind and become discouraged, thus causing more mid-semester drops. Although nearly 20 years old, the speculations in this study still seem relevant today, considering the pace of life in the digital age. In another study assessing the effectiveness of shorter semesters, faculty even cited student and instructor boredom as a potential pitfall of the more traditional 16-week semester (Sarkaria & Schuster, 2008). Has the 16-week semester simply become excessive? Are compressed-length courses better suited to today's learners and instructors in a digital era?

Faculty concerns do exist that a compressed format does not allow sufficient time for students to fully comprehend and reflect on the material (Daniel, 2000; Walsh et al., 2019), a sentiment shared by students, who have reported a preference for depth over breadth (Wilson & Gerber, 2008), especially in a compressed format (Scott, 1996). Additionally, despite the scheduling advantages of compressed-length courses, faculty have repeatedly questioned the ability of these courses to maintain academic rigor (Jaggars et al., 2013; Lutes & Davies, 2013; Scott, 1994; Scott & Conrad, 1992). Kretovics et al. (2005) found that it was common at their institution for faculty to eliminate content from their compressed-length courses and/or adjust assignments and assessment methods to accommodate the reduced time allotted to the course. Lutes and Davies (2013) suggested that future research would be beneficial to determine what, if any, modifications instructors make to the content of their compressed courses that might affect rigor, and to learn their rationale for doing so. Kretovics et al. (2005) emphasized the need to expand the research on "what really occurs" in compressed-length courses, in order to determine whether academic rigor is actually being lost as instructors make pedagogical changes to accommodate the shorter time frame.

As noted by Boeding (2016), the majority of the existing studies on compressed-length courses were conducted at four-year institutions and employ primarily quantitative methods (Anastasi, 2007; Austin & Gustafson, 2006; Lutes & Davies, 2013). Most of these studies pertain to different generational cohorts than the one currently in college, many of them conducted while Millennials were the traditional-aged undergraduate (Anderson & Anderson, 2012; Daniel, 2000; Kretovics et al., 2005). Additionally, much of the literature on compressed-length courses is limited to the disciplines of business/economics (Austin & Gustafson, 2006; Herrmann & Berry, 2016; Kasworm, 2003) and science, technology, engineering, and math, or "STEM" (Anastasi, 2007; Anderson & Anderson, 2012; Lee & Horsfall, 2010; Lutes & Davies, 2013).

Seemiller and Grace (2016) point out that Generation Z has grown up in an era of budget cuts to the arts, resulting in reduced exposure and limited access to music, dance, and theatre compared to previous generations (Parsad et al., 2012). The humanities and social sciences

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can also be marginalized in the secondary curriculum. While high school “social studies” courses provide entry points into four core disciplines: civics, economics, geography, and history (Arizona, 2018; National, 2014), the college general education curriculum is often a student’s first exposure to subjects like sociology, religion, or philosophy. As a result, having never had the opportunity to develop an appreciation for these subjects, humanities, arts, and social sciences can end up being a hard sell to this practically-minded generation. But with career satisfaction as an aspiration, Seemiller and Grace (2017) advise “instead of helping students explore only their interests and viable career options, educators may also need to help students engage in self-exploration of their values and passions as they search for their greater meaning in life” (p. 24). The humanities, arts, and social sciences are prime disciplines for such exploration.

This study endeavors to extend existing research by providing a qualitative examination of how the latest generational shift on college campuses from Millennials to Generation Z is impacting faculty and student experiences in compressed-length courses. It seeks to fill a gap in the literature by focusing on courses taught in the humanities, arts, and social sciences (HARTSS) in a community college setting, where many Generation Z learners are completing their lower division general education courses.

Institutional Profile

This study was conducted in the southwestern United States and provides a different student profile than many of the previous studies on compressed-length courses. Four neighboring community colleges in a large metropolitan area were selected for their overlapping geographic boundaries and their demographic similarities as Hispanic Serving Institutions (HSIs). The U.S. Department of Education defines an HSI as a non-profit degree-granting institution with full-time equivalent undergraduate Hispanic student enrollment of at least 25% (Hispanic, 2017; U.S. Dept., 2016). Almost three-quarters of the students at three of the institutions are first generation college students, meaning they do not have a parent who completed a bachelor’s degree. The institutions range in enrollment size from 6,000 to 15,000, including both full- and part-time students with varying intentions from academic transfer

to occupational certification to personal enrichment. All the institutions are commuter campuses with no on-campus housing, and the institutions all adhere to the same statewide general education program.

Method

This was a multi-faceted qualitative study, utilizing a phenomenological method to explore what the shift from Millennials to Generation Z means for compressed-length courses in a community college setting. Phenomenology has been characterized as both a philosophy and a method (Bloor & Wood, 2006; Creswell & Poth, 2018). The philosophy began with the writings of Edmund Husserl (1859-1938) and was expanded upon by scholars such as Heidegger, Merleau-Ponty, and Sartre (Bazeley, 2013; Creswell & Poth, 2018). These philosophers established the underlying assumptions of phenomenology upon which the methods are based—namely that there are inherent interrelationships between people and their surroundings, and that compelling meanings can be interpreted from these subjective interactions (Bazeley, 2013; Creswell & Poth, 2018; Crotty, 1998). As a method, phenomenology explores a construct as experienced by multiple individuals (Creswell & Poth, 2018), and provides a rich description and interpretation of the participants’ lived experiences (Rossman & Rallis, 2016). Through a process of categorizing similar statements, clustering topics, and identifying common themes, a phenomenological study aims to distill the essence of the shared experience (Creswell & Poth, 2018; Rossman & Rallis, 2016).

The elements of the study included a) a thematic analysis of narrative data collected through in-person interviews and follow-up written reflections with community college faculty in humanities, arts, and social sciences across four colleges who teach the same course in both a traditional-length (defined in this study as 16 weeks) and a compressed-length (defined in this study as 12 weeks or fewer) format; b) a comparative analysis of the faculty participants’ syllabi for compressed-length courses and their traditional-length counterparts; and c) an analysis of qualitative data collected through a survey of students who were currently enrolled or had recently taken a compressed-length course in humanities, arts, or social sciences at one of the four colleges in the study.

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Participants and Sampling

Criterion sampling was used to recruit eligible faculty members across the four colleges. With the goal of recruiting eight to sixteen faculty, a recruitment email was sent to all faculty that were scheduled to teach or had recently taught the same course in both a compressed-length and a traditional-length format in the humanities, arts, or social sciences at one of the four participating colleges. An additional recruitment email asking for participant referrals was sent to the academic divisions at each of the colleges. Interested faculty were asked to submit a Google form that confirmed their eligibility and provided contact information. The principal investigator (PI) corresponded directly with eligible faculty from that point on to request syllabi and schedule interviews.

Eight full-time faculty participants were recruited: three from one college, three from another, and one from each of the other two colleges in the study. Disciplines represented included Chicano/a studies, communication, film studies, history, sociology, storytelling, and theatre. In an effort to triangulate the data, a mix of both online and in-person courses was included in the conversations. Participants ranged in teaching experience from six years to 33 years. Each chose a pseudonym from a list of desert plants.

For the student survey, an email was sent to all faculty from the four participating colleges who were teaching a compressed-length course in the humanities, arts, and social sciences in spring 2019. The email contained a description of the research project and a link to the online student survey with a request that it be shared with all their students on a voluntary basis. The survey itself obtained informed consent, and confirmed whether students met the sampling criteria of a) having taken a compressed-length course at b) one of the four colleges in the study in c) the disciplines of arts, humanities, or social sciences.

Data Collection

Prior to each faculty interview, syllabi and weekly schedules were collected from participants for their compressed-length course(s) and traditional-length counterparts. Documents were analyzed for similarities and differences in content, pedagogy and expectations. Notable observations and questions were then discussed

as part of the interview.

Semi-structured in-person interviews were conducted with eight residential faculty who were in the process of teaching or had recently taught both compressed-length and traditional-length versions of the same course in the humanities, arts, or social sciences at one of the four colleges in the study. Interviews lasted approximately 90 minutes and consisted of open-ended questions regarding their experiences, observations, and considerations in preparing and teaching their courses. Categories included course planning, pedagogical methods, assessment and learning, perceptions of faculty and student engagement, focus and momentum, and scheduling.

The study of generations is not an exact science, and there is some disagreement regarding generation names and exact delineation dates, therefore, it was necessary to establish a measure of consistency across interviews. After comparing a number of sources in both scholarly and popular literature, a list of generational cohorts from the Pew Research Center (Dimock, 2019) was chosen for its adherence to the most commonly used descriptions. It defines the generational cohorts as follows: The Silent Generation (born 1928-1945), Baby Boomers (born 1946-1964), Generation X (born 1965-1980), Millennials or Generation Y (born 1981-1996), and post-Millennials or Generation Z (born 1997-present). All interviews were audio-recorded, transcribed verbatim, and coded for emergent themes.

As a means of initially coding the interviews and determining the most useful kinds of codes for further analysis, an approach called Eclectic Coding (Saldaña, 2016) was appropriate. Eclectic Coding employs a select combination of coding methods for exploratory purposes. These included Attribute Codes (Saldaña, 2016) describing participant information such as discipline and courses taught, Structural Codes (MacQueen et al., 2008) indexing interview topics, such as “student workload” and “perceptions of student engagement,” Provisional Codes (Miles et al., 2020) such as “attention span” and “momentum,” generated as anticipated themes from the literature review, and In Vivo Codes capturing the participants’ own words and phrases. Other coding methodologies that proved useful were Values Coding (Saldaña, 2016), which categorizes participant statements into values, beliefs, and attitudes,

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and Versus Coding (Saldaña, 2016), which highlights phenomena that seem to be in direct conflict with each other.

A 14-question student survey was then designed to supplement the thematic narrative data, based on emerging themes from faculty interviews. The first five multiple-choice questions obtained informed consent, demographic information (full or part time student status, age range) and sampling criteria (disciplines in which they were taking or had taken a compressed-length course). Multiple-choice questions then asked students about their prior expectations regarding: the amount of weekly work that would be assigned (twice as much, about the same, or less than a traditional 16-week course, with an option given for no prior expectation); the amount of time that would be needed for homework (twice as much, about the same, or less than a traditional 16-week course, with an option given for no prior expectation); and their length preference (12 weeks, 8 weeks, 5 weeks, or no preference—students could select all that applied). The next two multiple-choice questions asked for an additional narrative explanation of their response to: format preference (in person, online, hybrid, not at all—with an option to select all that applied); and semester preference (summer session, fall/spring, no preference, or prefer not to take compressed-length courses). The final two items were open-ended questions asking what appealed to them and what was challenging for them about taking a compressed-length course. 114 student surveys were collected across the four colleges, of which 100 were usable after discarding those whose responses indicated they did not meet the sampling criteria. Based on self-reporting of age, 74 respondents were Generation Z, 22 were Millennials, and 4 were Generation X.

Findings

In keeping with the phenomenological approach, the resulting narratives, materials, and survey data were synthesized under an interpretive paradigm (Crotty, 1998) to provide a complex description of how the latest generational shift is being experienced in compressed-length courses. The Values Coding revealed that faculty and students held some perspectives in common regarding the benefits and drawbacks of compressed-length courses, such as their preferred course length and their shared concerns about quality of learning. More

than one faculty member indicated that teaching a compressed-length course has served to strengthen their instructional methodologies in their traditional-length courses by helping them to hone in on what the most important concepts are and streamline their teaching accordingly. Ironically, almost none of the reasons faculty participants cited for teaching compressed-length courses were pedagogical or student-centered. It was usually a result of scheduling logistics such as summer salary allotment, previous precedent, or random assignment to the course.

The Versus Coding revealed three conflicting perspectives where the faculty perceptions and attitudes toward compressed-length courses seemed to be in direct contrast to what the students were expecting and experiencing. These three divergent themes—differing educational agendas, differing expectations of time and workload, and the role of stress in students' lives—overlap with each other in terms of implications, and highlight ways in which Generation Z's perspectives are beginning to reshape the educational experience.

Concurring Attitudes Toward Course Length

The faculty participants in the study held generally positive views about the inclusion of compressed-length courses in the schedule, although they favored a midrange level of compression (8 to 10 weeks) and in fact preferred that length to a traditional 16-week semester. The biggest concerns among faculty and students were in relation to the 5-week length. Most faculty agreed the 5-week format was too short, citing student learning as the primary concern:

PROFESSOR MARIGOLD: I wouldn't want to trust my students to try to digest this much information in one day...

PROFESSOR OAK: We do offer it. But to me that's almost too short of a time span to cover so much material...5 weeks is just way too short.

PROFESSOR SAGE: ...I feel that we're doing a disservice to the students.

PROFESSOR SILVERLEAF: I'll never do it again...it's a lot of material to be able to cover in

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a short amount of time...we tried it, and in the students reflecting back on it, they wished they'd had more time.

The student survey indicated that students agree with this assessment. When asked their preference between 12, 8, and 5 weeks, the 5-week format was the least popular. Surprisingly, the 12-week option received the most votes at 36%, followed by no preference at 29%, 8 weeks at 21%, and 5 weeks at 6%. The higher popularity of the longer lengths suggests that the compressed-length format may not be as well-liked by students as is sometimes assumed.

In fact, both students and faculty had reservations about the quality of the learning that takes place in a compressed course. "Sometimes I don't feel like I got enough out of the course," said one student. Another was concerned about "rushing through or skipping topics that would normally be covered in a full-length course." Students pointed out in their narratives that some subjects are simply too hard for a compressed format, and "it can become too much to learn," given that it is challenging to absorb complex information at a fast pace. Faculty shared this sentiment, acknowledging that the pace of a compressed class is sometimes too hurried for substantial learning to take place. Both groups noted that in a compressed course, there is no time for students to not understand something, since the instructor needs to press on and cover the content, and in the case of online learning, the next assignment is due whether the students have gotten their questions answered or not. Both faculty and students mentioned that, when compared to a traditional-length course, it is easier to fall behind in a compressed course, and more difficult to catch up.

Differing Educational Agendas

Generation Z grew up during an economic recession. They watched their parents' generation struggle through financial hardship, and that has shaped their financial outlook, especially when it comes to what they are willing to spend money on. College is viewed with some skepticism—after all, many of their Millennial siblings had to move back in with their parents because they could not find employment in their field after college. Those Generation Z students that do choose the college route

want a guarantee of return on investment—meaning a direct path to a job or career (Seemiller & Grace, 2017; Twenge, 2017). In observing this cohort of students, one professor lamented:

PROFESSOR SAGE: There was a time where many of us would take classes we were interested in, that may not be part of our degree directly, but we wanted it for us. Economically this is a lower end demographic. They don't have a lot of extra spending money. So getting them to take classes, especially ones that don't directly go to their degree, whether they're interested or not, is nearly impossible. They just don't have the funds in order to do it.

Continuing the Millennial trend noted by Twenge and Donnelly (2016), many students in Generation Z view college as a transaction in which they plan to only complete the minimum requirements necessary to attain a degree. They want their education to be fiscally responsible and time-efficient, each course bringing them closer to graduating. With the end goal in mind, the idea of fitting more courses into a semester appealed to some students in this study, citing that they could "get it over with" more quickly or "get the course out of the way" and "move on to the next required class." This attitude illustrates Seemiller and Grace's (2017) observation that Generation Z tends to be motivated by rewards, not so much in the form of prizes or gifts, but in terms of advancement toward a larger goal. As one student in the survey declared, "I just want my degree, dude."

It is hard to fault Generation Z for their goal-oriented practicality. But the coding revealed an attitude of drudgery associated with learning that makes it difficult for professors like Sage, who teaches in the arts, to engage students in their classes. Not all arts students are arts majors—many are taking the arts as general education and see them as "required" courses. Beyond the stated curriculum of each course, HARTSS faculty set "lofty goals," in the words of Professor Ironwood. They cited a number of broader learning objectives that HARTSS courses organically cultivate, such as helping students to a) gain a sense of civility and responsibility to society; b) become critical thinkers who can express themselves clearly; c) make themselves vulnerable in the pursuit of authenticity; and d) increase their perspective of their

Lofty Goals *continued*

place in the world through exposure to other ideas and cultures. While these are important qualities for any employee, there is no direct course-to-career pipeline in those objectives, and Generation Z has indicated they are more interested in the destination than the journey. “Lofty goals” like these are especially challenging to achieve in a compressed-length format with students who just want to “get it over with” and move on.

Differing Expectations of Time and Workload

The narrative comments in the student survey painted a vivid picture of a generation that values their time and wants to invest it wisely. The reality of the community college population is that many students carry other responsibilities such as work and family, so they view their time as precious and limited. The survey indicated that for some, compressed-length courses offer a welcome shortcut to a traditional-length course. However, compressed classes require that students complete a greater amount of work in less time than usual. Many students worry about this time crunch, since more time is needed throughout the week for homework and studying. Even for the short duration of the course, this is extra time that students do not believe they have. Some feel the workload of a compressed course simply takes too much time out of the day, and in the case of in-person classes, they find the idea of spending more time in class too big of a challenge.

The U.S. Department of Education defines a college credit hour as consisting of one hour of classroom instruction and a minimum of two hours of out of class student work each week for approximately fifteen weeks, or the equivalent amount of work over a different amount of time (Definitions, 2019). Many colleges extend that expectation to a recommendation of two to three hours outside of class on homework or studying each week. That means for a 3-credit course, the class would meet for three hours each week, and the homework expectation would be six to nine hours each week. When translating this recommendation to an 8-week course, the formula becomes 12 to 18 hours of outside work each week, on top of six hours in class each week, totaling 17 to 23 hours of time each week devoted to the class. It follows that the 5-week formula is even more rigorous, working out to about 30 hours per week devoted to class work. One interview question asked faculty whether they believed students were adhering to this formula:

PROFESSOR AGAVE: That’s a good question.

PROFESSOR IRONWOOD: ...I think that’s unrealistic for us to expect of our students...I think they should [spend that much time], but I don’t know if they do.

PROFESSOR SILVERLEAF: No, that’s not what they’re spending.

While it may be logical to assume that half the weeks equals twice the time needed to complete the same amount of work, faculty in the study perceived that students do not possess a prior awareness of the amount of homework time required for a compressed-length course. When asked if students think the course will be twice the work or half the work, Professor Ironwood said “I think they think it’s the same amount of work in half the amount of time.” While that may be true, it sounds a little magical. A more accurate way of stating it would be “The same amount of work in half the number of weeks, which means twice the number of hours each day.” The general consensus among our faculty participants was that students do not factor in that last phrase: “...twice the number of hours each day.”

PROFESSOR MESQUITE: Easier.

PI: They think it’s going to be easier?

PROFESSOR MESQUITE: Yeah, I’ve had ‘em say that. Yeah.

PROFESSOR ROSEWOOD: I don’t think they realize the workload...They want it quickly, but I’m not sure they realize...how much work they’re going to have to do for it.

PROFESSOR IRONWOOD: ...they don’t know what they’re signing up for...I just find it so suspect that my 8-week always fills, and fills quickly.

These perceptions highlight a disconnect between what students expect and what instructors expect in terms of time and workload. The most common practice among the faculty participants, as evidenced in their syllabi, was to layer two weeks’ worth of content and assignments from the traditional format into one week

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in the compressed. The amount of reading and content in the modules is doubled, and discussion boards might cover two chapters instead of one. Assignments might combine content from multiple modules, thinning out details and emphasizing larger concepts. One professor spoke of this adjustment as a way to “manage perceptions” about the workload, so students would not feel they were literally doing twice as much work, even though they are. “They’re still getting all the information,” the professor said amusedly.

Faculty participants shared concerns that students at our community colleges may not be adequately prepared for college, let alone the rigor of a compressed-length course. Many of our students are first-generation college students who lack the cultural capital that would provide them with a more comprehensive understanding of the college system. Many are in developmental education classes and lack basic reading and writing skills necessary to complete higher volumes of college-level reading and assignments in less time. And some of our students are high school aged—participating in early college programs offered by the institutions. High school students may be unequipped to handle college-level work in a compressed format due to their lack of maturity and limited exposure to college-level work. Although many of the courses in the HARTSS fields fill general education requirements, and faculty support the notion of flexibility in course formats, lack of preparedness for college was a concern that ran through the interviews.

The Role of Stress in Students’ Lives

Generation Z is especially mindful of keeping stress to a minimum. They are, after all, on the heels of the “pressured” Millennial generation (Howe & Strauss, 2000) who was dubbed by Twenge (2014) as “Generation Stressed.” A 2018 survey by the American Psychological Association found that members of Generation Z report experiencing high levels of stress due to factors such as gun violence, family separations and sexual assaults (American, 2018). According to the survey, they are more likely than any other generation to report poor mental health, and to seek help for mental health concerns. A 2014 study by Northeastern University found that a majority of their students disclosed feeling anxious about the cost of higher education (News@ Northeastern, 2014).

Students in our survey expressed related concerns with maintaining a work-school-life balance, and avoiding stress was cited as a strategy. Some students reported not wanting to risk stress as a reason for not enrolling in compressed-length courses. They understand that the schedule of a compressed course requires more work in less time, and find the prospect of the additional workload overwhelming. One student sees it as a basic equation: “Less time equals more stress.” With absolutely no time for falling behind in a compressed course, many students stated that they prefer the more relaxed pace of a traditional schedule.

Other students cited advantages of a compressed course for stress reduction. They find that taking compressed courses during the regular semester or during the summer allows for more free time during the fall and spring semesters. They appreciate being able to focus on fewer classes at one time, and believe that opens up more time in the school year for things like work, family, and social life.

Whether they view these courses as stress-inducing or stress-reducing, stress is undoubtedly a factor for Generation Z students in considering compressed-length courses. In the faculty interviews, however, professors did not seem particularly aware of stress as a motivating factor in the lives of their students at all. They mentioned being mindful of how busy students are, but never discussed student stress or stress reduction directly as a contributing factor to their course planning or pedagogy. In fact, they often spoke of the demanding nature of compressed-length courses with an almost playful attitude. They likened it to “a race to the finish,” believing it holds the excitement of a sprint, complete with adrenaline and motivation to cross the finish line. One professor said “I think it’s more fun for them just because it moves rapidly... The stakes feel a little higher...there’s a little bit of motivation. That light at the end of the tunnel is closer. The payoff is great.” Instructors sometimes take on the persona of an aggressive coach with a “no pain, no gain” philosophy, and expect students to rise to the challenge with enthusiasm. “We are running! You have to hit the ground running! We are going at double speed!”

While a few students said they enjoy the intensity and fast pace of a compressed class, most students made it very clear they do not like feeling rushed.

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Rushing equals stress and stress is to be avoided. Some students were concerned about their ability to absorb so much information in a short amount of time, and were nervous about what would happen if they did not understand something. This is a valid concern, as even faculty acknowledge that assignments are spaced very close together. Compressed-length courses do bring with them a sense of urgency. The time crunch is palpable and deadlines are looming. Faculty recognize how easy it is for students to fall behind since there is so much less time between assignments:

PROFESSOR SAGE: I give them the same work. It's just now everything is due the next day... And then when they don't do it, it snowballs into the next day's stuff, and the next day's stuff, and they very quickly fall behind in those compressed classes...In this 5-week class, they've got to do it all in one night because we start at 9:00 a.m. And I'm not usually the only class they're taking that semester.

Students acknowledged that in a compressed course, the work can pile up quickly and the schedule requires more discipline in order to “stay on top of it.” But rather than being exhilarated by the challenge, as instructors seem to be, students report feeling stressed and overwhelmed by the fast pace and multitude of assignments.

Discussion

The findings in this study provide information that faculty in any discipline can leverage to maximize learning in compressed-length courses, given the characteristics of the current generational cohort. How do we maintain our “lofty goals” when this generation just wants to fast track through a degree?

One strategy would be for institutions to re-examine their reasons for offering 5-week courses. The conversation ideally would involve both faculty and students, to discover whether the 5-week format (online, hybrid, and/or in person) is practical for achieving the desired learning outcomes with this generation. This could be especially salient for those institutions operating on a quarter system, where a 10-week semester might already be the norm and any compressed version would likely be 5 weeks. Both students and faculty in this study

agreed that 5 weeks is not long enough for meaningful learning to take place, especially given that Millennials and Generation Z juggle multiple responsibilities while trying to keep stress to a minimum. Even though this study was centered on HARTSS courses, this concern applies to all disciplines, especially those that require higher level skill development or comprehension of complex concepts. The 5-week format may not set students up for success.

Another strategy would be to completely reimagine the pedagogical approach to compressed-length courses. In this technological age, the role of the instructor has evolved into more of an information curator than an information provider. According to Seemiller and Grace (2016) “Education for Generation Z is about helping students make sense of the overabundance of information that is available to them.” Students view instructors as facilitators in helping them discover the information they need, but the students prefer to direct their own learning. Generation Z and younger Millennials have always had information at their fingertips, and they are accustomed to satiating their curiosity about almost anything with a quick tap dance of their thumbs. They see no need for spending time on class content that does not deepen their understanding of a concept or help them apply it to a real-world situation. Professor Silverleaf pointed out “You’ll always be able to Google who the playwright of *A Doll’s House* is,” which was not the case when compressed-length courses first began to be offered. It makes sense to leverage the advantages of digital tools, and to design instruction accordingly.

In a study focused on Millennials, Wilson and Gerber (2008) recommended that instructors reduce the amount of content in general education courses in favor of deeper exploration of fewer topics, as a way to minimize student stress. This recommendation still bears considering, and does not mean that rigor must be compromised; merely that the focus of the educational experience can be shifted to depth because technology allows for the breadth to take place as needed. Compressed-length courses lend themselves to this kind of information culling, since the time crunch already presents challenges in “covering” the same amount of content. Instead of the typical strategies of doubling content and combining assignments, a compressed course might be an opportunity to rethink the way competencies can be met, and implement a

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purposeful course design that works with rather than against the time crunch. The shortened time frame should not be incidental to the course—it should in fact be integral to the goals of the course. Regardless of discipline, the compressed length should be chosen because it is the best way to teach the course.

Another implication for these findings is in the realm of faculty development. More than one professor expressed concern that much of our professional growth training has been geared toward teaching the Millennial, and has not yet caught up to the fact that post-Millennials have arrived on our campuses.

PROFESSOR SAGE: I'm trying to retrain myself because now it's a new generation, and they're learning differently. And they need to be assessed differently and they need to be approached differently. And I'm trying to figure that out. I haven't seen many professional growth opportunities for an update pedagogically on the post-Millennial. It's not the same group that was here just a few years ago. I'm always trying to improve myself and connect with the next generation so I'm not outdated.

Several of our participants expressed a need for training opportunities to help the campus community catch up with the latest generational shift. Faculty development could be offered to address pedagogical considerations in teaching Generation Z, designing and delivering a compressed-length course, and transitioning an existing traditional-length course to a compressed-length format. Furthermore, the results of this study could be used by administrators and student services to better inform scheduling practices at each college, ensuring a learner-centered approach to course offerings. Understanding the ways in which the student population has evolved will help faculty optimize course design and instructional methods to increase student engagement and success.

This study arose from a driving question about whether compressed-length courses are better suited to today's learners and instructors, and the answer seems dependent on whether course design and pedagogy have been adapted to reflect the latest generational shift and the digital age. The study helps illuminate the ways in which the educational goals, learning styles, and expectations of

the current generation of students attending community colleges are different from those of their predecessors. While this qualitative study represents a small sample of participants centered in the humanities, arts, and social sciences, the student perspective supports much of the existing literature regarding Generation Z learners, and therefore has the potential to impact pedagogy on a larger scale. These findings illustrate student and faculty experiences that are useful for institutions to consider in assessing their approach toward alternative course lengths, so as to design instruction intentionally for a new generation of learners.

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BOOK REVIEWS

Peter C. Brown, Henry L. Roediger III, & Mark A. McDaniel's, *Make it stick*. Harvard University Press, 2014.

Kathryn E. Frazier, Department of Psychology, Worcester State University

Correspondence concerning this article should be addressed to Kathryn E. Frazier, Email: kfrazier@worcester.edu

Two cognitive scientists and a storyteller team up to write a book about successful learning—this is the premise that lies at the heart of Brown, Roediger III, and McDaniel's *Make It Stick*. The result is an accessible and actionable text for faculty, students and lifelong learners across disciplines. While some of the claims made about learning and memory may not appear groundbreaking to those familiar with the scholarship of teaching and learning, or cognitive science, the authors directly apply this work to teaching and learning in two valuable ways. First, the authors critique prominent study habits, and dismantle beliefs about learning that often plague both faculty and student efforts, e.g., that “learning styles” should dictate teaching, or that effective teaching should make learning feel easy. Second, beyond providing a firm foundation in cognitive science, the authors translate this scientific knowledge into clear, specific, and impactful recommendations that the reader (learner or instructor, scientist or novice) can immediately put into action.

I first read this text as part of a faculty book club coordinated by my university's Center for Teaching and Learning. Faculty across disciplines participated, representing communication sciences, education, psychology, English, biology, chemistry and business administration. *Make It Stick* resonated with faculty across disciplines. Beyond general principles about student learning, faculty also reported finding specific recommendations immediately relevant and applicable to their courses. Two of our faculty actually ended up using the text, itself, in their courses—one in an upper-level Cognitive Psychology course, and another in a Communication Sciences first-year seminar in which the faculty member drew from the detailed footnotes to locate pertinent readings for students.

Make It Stick is organized by topic with each chapter focused on a different learning strategy or challenge. Importantly—a real strength of the text, and a compelling reason to read the book sequentially from beginning to end—is the authors' use of their own writing to illustrate the techniques and research that they advocate. For example, the authors emphasize that learning is an iterative process. Indeed, they revisit central topics throughout the text, drawing connections while activating the readers' prior knowledge. In a clever display of “walking the walk,” the authors invite the reader to experience how well the evidence-based techniques presented work over the course of the text. Chapter 1 lays out the premise and claims of the text with the hook that successful learning is an acquired skill and most of what we think we know about the learning process is misguided and counterproductive. Chapters 2 through 7 outline specific techniques to support successful learning, often taking a misconception about learning as their starting point. Chapter 8 presents an invaluable integration of the full text paired with specific recommendations for the classroom. Woven into the authors' discussion of empirical work on memory and learning, each chapter includes narrative vignettes which illustrate learning-in-action from the lives of real people (a neurosurgeon, a U.S. Marine Corps lieutenant in jump school, and a college baseball team to name a few). Contextualizing problems of learning and memory in these interesting and diverse examples elevates the text, while also highlighting specific strategies to enact the principles discussed.

Following the introductory first chapter, chapters 2 and 3 delve into the research on improving knowledge retention. Chapter 2, “To Learn, Retrieve,” presents a brief history of the research on forgetting and is an

Make It Stick *continued*

evidence- and anecdote-filled defense of testing. Testing, at least, that is done well: what the authors describe as repeated, low stakes retrieval practice that is spaced over time, effortful and followed with corrective feedback. The cognitive and neuroimaging evidence presented is balanced with examples from the operating room, the football field and, of course, the classroom, providing the reader plenty of possibilities for implementation. Well aware of prominent testing skepticism and fatigue (on the part of both students and instructors), the authors dismantle the argument that testing only increases rote memorization. Instead, they argue that in order to promote the higher order, creative thinking we want from our students, a solid foundation of both factual and conceptual knowledge is required. Ch. 3, “Mix Up Your Practice,” demonstrates how testing—and other forms of practice—can move toward these higher order processes through interleaving. Tackling firmly held beliefs in learning that prioritize massed practice (e.g. students cramming for exams, or faculty creating assignments that repeatedly tap the same skill), the authors argue instead for mixed bursts of practice that that individually stop short of mastery.

Chapters 4 and 5 address pitfalls in students’ learning efforts: avoiding effortful practice and relying on ineffective study practices that “feel” helpful. Presented alongside research differentiating short- and long-term memory, Chapter 4, “Embrace Difficulties” encourages instructors to create, what the authors call, “desirable difficulties” in their classrooms and assignments. Cautioning against the “myth of errorless learning”, the authors advocate creating space for students to struggle with problems, to fail and reflect, and to explicitly mark that process as learning—learning that is more durable than low-effort activities. This also serves as call to instructors to acknowledge that learning is indeed a road paved with mistakes and setbacks. The chapter concludes with ideas for incorporating this vision of learning in classroom assessment. Generative learning, which involves structured opportunities for students to work through problems prior to receiving formal instruction, and other techniques involving students’ active (rather than passive) effort and engagement are discussed. Chapter 5, “Avoid Illusions of Knowing,” extends this line of argument by reminding us that student perceptions of their learning are often inaccurate. This chapter led to a particularly vibrant discussion in my faculty

reading group as we could each recall meeting with a student who had failed a recent exam only to hear them proclaim, “But I studied for hours. I thought that I knew everything!” Cognitive scientists have long told us that we are overconfident in our memories and our abilities. The authors build from this research and offer solutions that instructors can incorporate and model in their courses. While active learning is not explicitly discussed at length in the book, active learning techniques (peer instruction, reflection and simulation) are discussed here as potential strategies.

Chapters 6 and 7 are more research-dense and take on two common assumptions that can act as barriers to learning—that we each have a learning style that constrains the ways we can acquire information, and that intelligence is a fixed characteristic that one either possesses or lacks. Chapter 6, “Get Beyond Learning Style” presents a brief history of the work on learning styles and intelligence, including research conducted in both educational and managerial contexts. The authors argue that our preference for learning does not reliably map on to our actual ability to learn. A more useful tact, the authors suggest, is to consider ways of learning that do reliably led to long-term differences—what the authors discuss as structure building and rule (vs. example) learning. These chapters may be of greatest interest to instructors looking for theoretical frameworks and justification (in addition to empirical data) when crafting their materials. In the first substantive mention of the role of environment, Chapter 7, “Increase Your Abilities,” takes on the pervasive belief (certainly among many students) that intelligence is a characteristic bestowed at birth—something you either have or you don’t. Like Chapter 6, this chapter is more research- and theory-heavy than prior chapters, and focuses on neuroplasticity, growth mindset and the multitude of ways in which our environment contributes to intelligence and learning. The authors discuss socioeconomic status as a robust variable that leads to very real differences in learners’ performance. Glaringly absent from this chapter is mention of race or gender, which, as a wealth of data indicates, impact learning in similar ways. Reflecting prominent critiques of their broader field of psychology (my home discipline), the authors maintain a fairly individualist lens and end the chapter with a number of recommendations for improving one’s own memory and retention.

Make It Stick *continued*

The final chapter, “Make It Stick,” is a highly valuable summary of the key points of the text organized as a thorough set of “tips” explicitly written for different readers—for students, lifelong learners, teachers and trainers. This final chapter is excellent for quick reference and is written in accessible and application-based language ideal for both instructors thinking through a course or assignment, and for assigned reading for students. For example, the “For Students” section lists easily implemented study tips which emphasize repeated and effortful practice. Complementing this material, the “For Teachers” section, in part, contains strategies and real examples from faculty on how to effectively support students in developing effective study habits. In my view, the book is worth adding to one’s library, if just for this final, resource-rich chapter.

Brown, Roediger III and McDaniel’s *Make It Stick* is a highly engaging and accessible text that neatly provides the reader with both a thorough grounding in the empirical and theoretical work on durable learning, while also offering specific, actionable recommendations for immediate implementation. The text, particularly the last chapter, has served as a reference for me in reworking assignments and in-class activities, while also stirring up inspiration for fully renovating my courses. Easily put into conversation with work on active learning and student success, this book has numerous variable lessons for novice and experienced learners.

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