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The Journal on Empowering Teaching Excellence is a bi-annual publication released in the Fall and Spring. We accept articles and multimedia submissions from higher education professionals who have practical, experience-based insights to share with their peers. We value material that is up-to-date, proven, and easy to implement in today's teaching environments.

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About This Issue

Kim Hales, Editor-in-Chief
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Welcome to the Spring 2020 issue of Utah State's Journal on Empowering Teaching Excellence. We hope this issue finds all well, safe, and healthy. As scholars, we are all acutely aware of the constraints and opportunities offered by the world health crisis occurring at the time of this issue's publication. This issue explores opportunities to strengthen academic and intellectual vigor by focusing on the tripartite mission of higher education: that of teaching, research, and service.

We open with a book review by Robert Peterson, Associate Director of USU's Uintah Basin Statewide Campus, and the Uintah Basin USU campus director of Students. He offers valuable insight and response to Dr. Steven M. Gavazzi and E. Gordon Gee's book, *Land-Grant Universities for the Future: Higher Education for the Public Good* (2018). Peterson's review pairs nicely with the next selection, an article by Dr. Gavazzi himself, titled "Teaching Excellence: The Core of the Land-Grant Mission." He discusses the tri-partite mission of the land-grant institution and the unforced errors that universities make that lead them away from their mission of teaching, research, and service.

In the remainder of the issue, authors bring to bear their land-grant backgrounds in timely, relevant, and applicable ways. Dr. Antje Graul offers strategies for converting courses to on-line content, an article of great value in this time of urgent need for alternative course delivery options. Dr. David Law and his colleagues explore the literature on faculty to undergraduate mentoring programs and open a dialogue for future research. Dr. Sherena Huntsman and her colleagues share research regarding Open Educational Resources as a way to increase accessibility for all students. Finally, Dr. Christopher Garrett adds a vital piece to the tripartite conversation with his research on and application of Discussion Based Learning.

Please enjoy all this issue has to offer and be inspired to teach, research, and serve classrooms, universities, and communities in new and unconventional ways. Invite colleagues to do the same. Download this issue, click "follow" to subscribe, and submit your work on empowering excellence in education soon.

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The Impact and Importance of Understanding the Role of Land-Grant Universities in Higher Education

Reviewer: Robert Peterson, MPA
Utah State University, Uintah Basin

Book Review:

Reading *Land-Grant Universities for the Future: Higher Education for the Public Good* (2018) was a professionally and personally enlightening experience. At first, I was hesitant, however strongly encouraged by others because of my unique experience in both worlds of technical and higher education. The earlier chapters were most beneficial to me as I revisited the origins of land-grant institutions, their purposes, and the significant impact they have or rather should have on communities. I was drawn as well to the latter part of the book speaking of the role of faculty members in land grant institutions as "invested constituents." Furthermore, I took great satisfaction in the view of students, both undergraduate and graduate, being referred to as the very lifeblood of the land-grant university. Throughout the book, I was intrigued by comments made from Chancellors and Presidents alike on their views of topics and discussions presented in this writing.

At its inception, the land-grant institution was to help meet the needs of the "sons and daughters of toil," intending to make the educational experience available to the offspring of working-class parents who were to benefit the most from this new legislation. I find this initial cause to be most significant in helping to instill the value of education in working-class families

in the U.S. who often were denied or because of proximity could not attend urban institutions of higher learning. While currently working as an administrator of Utah State University in Northeastern Utah, one cannot help but wonder if we have been involved sufficiently to help ensure that part of the land-grant mission is still being kept. It definitely has caused me to rethink scholarship opportunities, along with marketing and recruitment efforts to those we serve. The limiting factors that once existed for those of toil seeking higher learning have certainly decreased; however, we should continue to seek out and concentrate on those with limited access to university education.

I enjoyed the reminder of how significant land-grant institutions should be within their communities. A sports team and significant contributions of a medical center often make the headlines; however, our communities seldom see other contributions of the land-grant institutions. Gavazzi and Gee discuss that universities are commonly referred to as "isolated and arrogant institutions" often not routinely asking our partners, as in a marriage relationship, what they want you to do, therefore not knowing in entirety what the needs are in our communities. The term servant leadership is quoted often in the book; this aptly describes the vision of Abraham Lincoln's model of the land-grant. The priorities of land-grants need constant attention as we seek to meet the needs of those in the area we serve.

Often, I refer to faculty colleagues as the lifeblood of our institution. This parallels well the distinction given in the book of invested constituents and workhorses of the institution. Their areas of expertise in our communities are recognized and appreciated. During my career, much of my time has been devoted to marketing higher education within our area of influence. I would welcome a more heightened approach at our regional campuses in creating more dialogue with community leaders and faculty as to ways our faculty could serve in the community. More opportunities will help create the atmosphere and attention needed within our communities to showcase our worth. The term engagement was brought up throughout the book, and indeed to be engaged, both entities need to be aware of one another to help find solutions.

Indeed, our students do bring hope, new ideas, and a drive as one administrator put it. They help the rest of us become better at reaching their needs. We need occasions to get to know them better. To me, that is the benefit of a rural land-grant institution. Our students are often our neighbors and acquaintances. We should be in a position to know them better and to help them become better acquainted with us.

This book confirms the land-grant university mission and emphasizes the individual responsibility mandated to serve those we influence. This includes all residents in the communities within our service area. Engagement with neighbors, civic leaders, businesses,

education institutions, and any other interested community partners, should all be recognized and listened to.

Our faculty, as busy as they are in areas of teaching, research, and service, should have at the forefront of their minds, the critical role they have in our society.

Students are fortunate to be the recipients of the knowledge our faculty gain. I hope that we do not forget the worth of each student as they present new ideas, new experiences, and a desire to learn so that they can solve tomorrow's problems as well as celebrate the success of tomorrow.

I wholeheartedly endorse Stephen M. Gavazzi and E. Gordon Gee's book, *Land-Grant Universities For The Future,* not only to those who work at land-grant colleges but to community members at large. Both audiences would do well to learn or to be reminded of the crucial role our colleges are to the local citizenry. Engaging together after 150+ years since the inception of land-grant colleges is still the right thing to do.

Teaching Excellence: The Core of the Land-Grant Mission

Stephen Gavazzi, Ph.D.
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Abstract

The tripartite mission of the land-grant university – teaching, research, and community engagement – has evolved over the course of the past 150 years. The intensified concentration on empirical activities in the last half century, however, is thought to have created a mission-related imbalance that often has relegated teaching and community engagement activities to second-tier status within the academy. In tandem, there have been several unforced errors on the part of universities that have diminished the public's belief in the return on investment associated with a college degree. The argument is made for an increased emphasis on teaching and learning activities in order to properly align the land-grant mission for the 21st century needs of our nation.

Keywords: land-grant, teaching, university, mission

Introduction

Through three separate acts of the U.S. Congress – the Morrill Act of 1862, the Hatch Act of 1877, and the Smith-Lever Act of 1914 – land-grant universities were assigned a tripartite mission: to teach, to conduct research, and to provide service to communities (Abramson, Damron, Dicks, & Sherwood, 2014). From 1862 onward, America's first public universities have modified their efforts in each of these three domains in order to respond to a variety of internal and external pressures. As we look to begin the third decade of the twenty-first century, it seems reasonable to ask the question: How well-balanced is the land-grant mission at this moment in time?

The Intensified Focus on Research

One thing seems abundantly clear: land-grant institutions have become ever more focused on empirical activities. The Hatch Act of 1877 mentioned above provided the expectation and (to some modest extent) the financial support for land-grant universities to engage in research. At first, research activities were almost exclusively aimed at agricultural issues, but after several decades these efforts became focused on a variety of mechanical, manufacturing, medical, and social concerns as well. From the post-WWII years onward, however, the federal government began to make a great deal of money available in the form of grants that would provide support for university-centered research activities. As a result, scholars from land-grant universities started to compete for these grant dollars with faculty members from other public and private institutions (Duderstadt, 2012).

It is my contention that, while these scholarly endeavors have resulted in countless inventions and discoveries that have benefited society, this intensified concentration on research also has served to destabilize the land-grant mission. So much so, in fact, that there is a real danger that teaching efforts and community engagement activities have been relegated to second-tier status in comparison to research efforts. As a direct response to this turn of events, the present paper calls for a determined effort to rebalance efforts within the three primary components of the land-grant mission.

The Land-Grant Study

The foundation of thinking on this topic comes from the interviews contained in the 2018 book *Land-Grant Universities for the Future: Higher Education for the Public Good* that I co-wrote with West Virginia University President E. Gordon Gee (Gavazzi & Gee, 2018). A total of 27 land-grant presidents and chancellors were asked to discuss the strengths, weaknesses, opportunities, and threats facing their institutions as they worked to meet the needs of those communities they were designed to serve. A thematic analysis of the resulting qualitative data generated seven central themes, posed in dialectical fashion to account for the dynamic tensions facing these senior leaders. In no specified order of importance, these themes included the following:

1. Concerns about funding declines versus the need to create efficiencies
2. Research prowess versus teaching and service excellence
3. Knowledge for knowledge's sake versus a more applied focus
4. The focus on rankings versus an emphasis on access and affordability

5. Meeting the needs of rural communities versus the needs of a more urbanized America
6. Global reach versus closer-to-home impact
7. The benefits of higher education versus the devaluation of a college diploma

The second theme–research prowess versus teaching and service excellence – rather neatly captures the central issue advanced in the present paper. Here, university presidents and chancellors voiced the enormous pride they felt in the scholarly accomplishments of land-grant institutions alongside their clear concerns about the lagging emphasis on excellence in teaching and community engagement. These senior leaders clearly wished for a greater balance between the three components of the land-grant mission, yet saw formidable obstacles getting in the way. Not the least of these stumbling blocks was the relative ease by which research excellence could be determined–number of publications, impact factors, citation indices, grant dollars received, etc.–in comparison to certain challenges that were associated with measuring excellence in teaching and community engagement activities (Gavazzi & Gee, 2018).

Of course, this situation is changing rapidly. We are witnessing centers of teaching excellence being developed all over the country (and world) in parallel with various actions being taken by university researchers to standardize the assessment of high-quality teaching methods and their impact. The efforts of the Empowering Teaching Excellence (ETE) program at Utah State University and the concurrent development of this journal serve stellar examples in this regard. The ETE program provides conferences, workshops, seminars, and other activities that showcase and encourage evidence-based teaching practices, while the *Journal on Empowering Teaching Excellence* allows for the dissemination of ideas and best practices.

On the community engagement front, similar efforts are being undertaken to measure and otherwise classify best practices. Perhaps most noteworthy along these latter lines is the Innovation and Economic Prosperity (IEP) designation that has been developed by the Association of Public and Land-Grant Universities (APLU, 2017), a mechanism that allows universities to document their economic impact through the development of meaningful partnerships. As well, the Engaged Scholarship Consortium is perhaps the most well-known professional organization dedicated to the strengthening of campus-community relationships while providing outlets for engaged scholarship through the maintenance of two peer-reviewed journals: the *Journal of Community Engagement and Scholarship* and the *Journal of Higher Education Outreach and Engagement.*

Hence, land-grant universities are rapidly finding themselves in a place where the lack of concrete measures of excellence in teaching and community engagement is no longer an excuse for devaluing efforts in these domains. The challenge in rebalancing the mission of the land-grant university will be to change the culture of the institution itself, one that has fallen

into the habit of placing the highest value on research methods. Ironically, the current imbalance runs counter to what the average citizen expects of its public universities. For example, one study asked participants what they would do if they were responsible for making decisions about how public money is spent on higher education. On average, respondents gave 45% of the funds to teaching, 30% to off-campus educational and technical help (associated with the community engagement work of Cooperative Extension Services), and only 25% to research (Warner, Christenson, Dillman, & Salant, 1996).

Unforced Errors

The fourth theme discussed in the Gavazzi and Gee (2018) book – the focus on rankings versus an emphasis on access and affordability – spotlights one of several "unforced errors" made by land-grant universities that have had a deleterious impact on the public's evaluation of the return on investment associated with funding these institutions of higher learning. Efforts to chase reputation-based national rankings of colleges and universities such as U.S. News and World Report have had an adverse effect on the land-grant university's ability to serve those working-class students – originally termed the "industrial classes" – who were named as the primary beneficiaries of the original Morrill Act of 1862. This is due in large part to the fact that one of the most powerful ways to move up in these rankings is to increase the average standardized test scores of your incoming freshmen class, and these educational attainment measures are skewed toward higher-income students (Gavazzi & Gee, 2018).

The changing demographics of students served by land-grant universities have coincided with a shift in citizens' perceptions that a college degree is more of a "private good" than a "public good" (Kezar, Chambers, & Burkhardt, 2005). Why, the thinking goes, should tax dollars be put toward the support of college students whose parents can afford to pay the tuition? Further exacerbating this issue is the fact that the competition to recruit students with stellar entrance exam scores costs a great deal of money. As a result, the need to offer merit-based aid to attract these high-performance students takes away from funds that could be put toward more needs-based aid for those students coming from families who do not have the resources to send their sons and daughters to college.

In addition to the 27 presidents and chancellors interviewed for our book, my colleague and I also talked to 35 thought leaders in the higher education realm, including state lawmakers, accrediting body officials, policymakers, think tank affiliates, and so on. To a person, *not one individual* believed that any university – private or public, land-grant or otherwise – should be concerned with their ranking in U.S. News and World Report. Thus, I maintain that there is a great need for land-grant universities to return to their historical roots in terms

of the students who should be served by their teaching efforts. Such efforts necessarily will involve further cultural change, including those governing board members (typically called boards of trustees, boards of regents, and the like) who often as not have been the driving forces (and certainly the supportive cast) behind the chasing of national rankings.

Another unforced error is occurring within the academy itself, and this one is centered directly on how research efforts are described to the public at large. Universities have shown a tendency to brag about the amount of research dollars that are awarded and expended to their institutions. There is more than a bit of irony here, and the absurdity surrounding this type of boastfulness cannot be understated. First and foremost, the average citizen who hears that a university has been awarded $500 million in grant money rather quickly will conclude that the institution now needs even less money from the public coffers. Second, and tragically, the intake of that amount of funding will end up costing that university, on average, about $600 million. This means that an institution with a half a billion dollars in research funding will have to find an additional $100 million from other sources (tuition, development dollars, etc.) to cover the 20% shortfall that typically occurs when all true costs associated with the research efforts are accounted for (Newfield, 2016).

A Return to the Land-Grant Roots

What if, instead of bragging about total research dollars, universities alternatively boasted about the number of scientists that were trained as a direct result of the studies being supported by that grant funding? This would underscore the direct connection back to the teaching mission of the university, in this case, the development of graduate students who will finish their studies and take their place as part of the next generation of professionals working in our businesses and industries. And internally, what if we similarly evaluated (and thus rewarded) research efforts not on the total amount of funding awarded and publications arising from those grant dollars (the coin of the realm right now) but rather on the number of students who were trained by the faculty member, as well as the number of students who were co-authors on their scientific papers?

Again, we likely are talking about a culture change of epic proportions. And yet, if the trend lines of funding from state governments are any indication of what is to come, what do we have to lose? On the contrary, then, it seems to be the case that we might have everything to gain from this sort of return to our historical roots as a land-grant university. The thought leaders interviewed for the Gavazzi and Gee (2018) study were very clear about the "formula for success" regarding land-grant universities. Become more efficient with the public funding you receive at present. Err on the side of emphasizing teaching excellence and community

engagement. If you are going to conduct research, make certain you can discuss the applied (practical) significance of your efforts. Forget about national rankings and instead focus on access and affordability. Stop talking about rural versus urban issues and instead focus on what all communities need right now. And pay attention to closer to home impact, even when you are interested in doing something internationally.

Together, these are sorts of steps that can return the land-grant university to its historical roots and mission. At the very center of this call to action is the essential role of our faculty members, those individuals who can extend their instructional efforts to include both research activities and community engagement as appropriate to the students and situations in which they are conducting their work. And, as they work within this sort of framework, their efforts inevitably will meet community stakeholders where they are located, thus encouraging citizens to once again think about our land-grant institutions as the "people's universities."

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Successful Strategies for Content Creation and Design of Online Classes

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Abstract

Given the consequential need for colleges throughout the world to move classes online amid the spread of COVID-19 in 2019-2020, there is a growing call for higher-educational bodies to launch high-quality online classes that allow students to pursue their education as part of a successful risk management strategy. Thus, more than ever, guidance is needed on how to design an online class successfully. Drawing on the design of an asynchronous Digital Marketing online class, this article discusses strategic decisions regarding content creation, personalization, assignments, and assessment ideas that may hold the potential to increase students' engagement in an online class. The insights provided may be relevant and applicable to instructors tasked with teaching online. They will be of interest to a largely academic audience from various backgrounds. Detailed directions on how to replicate the procedures in order to design online classes successfully are illustrated.

Keywords: Online Instruction, Instructional Design, Student Engagement, Canvas

Introduction

Providing equal learning opportunities for students of various backgrounds is an essential goal for premier, student-centered higher educational bodies to achieve. Specifically, at a land-grant university such as Utah State University, serving the public through learning, discovery, and engagement is a value deeply embedded in the university's mission and culture. As personal circumstances, such as restricted funding opportunities or family commitments may often impact a potential student's decision to pursue a degree in higher education, it is crucial to identify ways in which individuals can be offered the opportunity to successfully complete a higher education degree amid their individual situation. Web-based instruction represents one such example enabling students to fit their education around work, family, and unique lifestyles and demands they may have.

In addition, the recent spread of COVID-19 throughout the world has prompted universities to innovate their teaching models in 2019-2020. Colleges were tasked with moving classes online in order to assure a premier education for all students remotely, with the goal of preventing an amplified spread of the virus. Online classes do not only help to promote "social distancing," but also provide students the ability to manage their workload, both remotely and independently, for a set period of time. In contrast to traditional face-to-face classroom instruction or synchronous broadcast classes, which are mediated by technology (Webster & Hackley, 1997), sections that are taught asynchronously online are typically pre-recorded, allowing students the opportunity to complete learning materials and assignments with a greater degree of flexibility. Critics of online instruction voice their concerns of "digital diploma mills" replacing professors, a pervasive lack of visual cues (Tiene, 2000), and depersonalization of the learning process (Salmon, 2004) that may give advantage to the technology-savvy student segment (Navarro, 2000). However, enthusiasts see the potential for a more individualized learning environment that enables different learning types to perform better (Zhan et al., 2011) and can reduce students' anxiety (AbuSeileek, 2012). While the adoption of online courses should be critically evaluated, instructors witness a growing demand for asynchronous online classes, challenging institutions to adopt effective curriculum.

In 2001, Mark Prensky defined a large segment of our current student population as Digital Natives, based on their ability to act as "native speakers of the digital language of computers, video games, and the Internet" (Prensky, 2001, p.1). Specifically, he suggests:

> Digital Natives are used to receiving information really fast. They like to parallel process and multi-task. They prefer their graphics before their text rather than the opposite. They prefer random access (like hypertext). They function best when networked. They thrive on instant gratification and frequent rewards. They prefer games to 'serious' work. (p. 1)

While the above list of attributes may be particularly descriptive of students titled digital natives, it remains important to acknowledge that age is not the single determining factor of students' technical abilities. Rather, additional characteristics such as individual usage experience, self-efficacy, and education have to be taken into consideration when classifying a student as Digital Native (Helsper & Eynon, 2010). Specifically, students may be digitally excluded due to socio-economic factors, their cultural background, or personal interests (Bennet et al., 2008; Selwyn, 2009), encouraging instructors to take various levels of technology awareness into consideration when designing their materials.

The following strategies—derived from case studies and the literature—are designed to help instructors develop successful online classes. While the following ideas were applied using the learning management system (LMS) Canvas, all strategies and ideas are transferrable to a variety of other LMS solutions.

Strategy 1: The Creation of Content Cubes

When preparing for upcoming travels, we are often faced with the dilemma of being unable to pack our entire wardrobe or everything we would like to bring into one suitcase, and we realize it is impossible to make everything fit. A popular packing tool for traveling is "packing cubes"—which enable the user to sort and compress personal items and organize suitcases more efficiently. The same analogy applies to online classes; instructors must understand that while it is impossible to include all content from a traditional face-to-face class into an asynchronous online class, it is important to break the content material down into structural "cubes," which could be modules, weeks, or sessions centered around a particular topic. Based on case experiences, it has proven successful to create a class around three to seven of these content cubes depending on its overall length and topic suitability.

Once the number of content cubes are agreed upon, the same principle applies to the recording of videos. Thus, shorter videos of no more than 15 minutes are recommended by instructional designers and can be broken up by short quizzes either within the video itself or between video sections. Generally, instructors may wish to consider recording original videos using a combination of two software - a camera (to record the instructor) and a screen capturing software (to record the slide deck) - rather than voicing over a large slide deck and not personally appearing in the videos. Media studios on campus are often equipped with the respective technology. This approach allows students to either focus on the captured slide deck and the information displayed on the slides, or the instructor screen, focusing on the instructor, which hones the potential to address different learning types (e.g., visual, aural, verbal). In addition, expert videos, TED Talks, or other YouTube material can be used to make the class as timely as possible. Note that research has found that Digital Natives consider YouTube as a credible helping source for self-instruction (Seemiller & Grace, 2016). Instructors might consider applying this insight by using the Canvas function to embed a playlist or by creating a YouTube playlist with various videos integrated into one playlist. Thus, media content can be made more accessible to students.

Additionally, it is advisable to use a digital textbook where possible. Digital Natives may appreciate the use of a digital textbook as it allows them to access their readings from anywhere

and facilitates a learning environment that matches the already familiar digital reading environment.

Strategy 2: The Personalization of Asynchronous Online Classes

Given the need for Digital Natives to collaborate and belong in a digital age (Seemiller & Grace, 2016), it is more important than ever to weave personal elements into an online class. Prior research shows that social presence significantly contributes to effective instruction (Aragon, 2003) and suggests that face-to-face meetings with the instructor and contact with other students serve as a predictor for students' achievement and attitudes (Bernard et al., 2004). As a result, in addition to the recording of personal videos as suggested in Strategy 1, it is crucial to establish online relationships with students that allow personal feedback and interaction, cultivating students' experience and application of emerging technologies in work-related settings (Webster & Hackley, 1997). Drawing on a media channel that is already embedded into students' daily life or setting up calls via video software such as Zoom, Skype, or Google Hangouts can be a fruitful tool to engage with Digital Natives on a personal level and allow for two-way communication rather than one-way lecturing. Canvas, for example, offers a calendar function, allowing instructors or teaching assistants to set up meeting slots that can be booked by students individually, allowing for more effective scheduling of remote video calls.

Additionally, research shows that "student-student and instructor-student communication are strongly correlated with higher student engagement with the course" (Dixson, 2010, p. 1). Thus, based on these findings and practical experiences, it may be recommended to facilitate social interaction not only with the instructor but also between students and their peers. For instance, Canvas allows for the creation of discussion boards that can be used for a variety of tasks (e.g., student introductions; student discussions; student Q&A). In order to provide more personalization and, ultimately, a higher level of perceived social interaction in asynchronous online classes, it is key to provide a variety of meaningful ways to interact.

Strategy 3: The Creation of Relevant and Impactful Assignments that Include Technology

Based on their research insights, Mohr and Mohr (2017) recommend designing assignments that give students a certain degree of empowerment, choice, and sense of

freedom. In addition, they demonstrate that it is vital to understand the impact that assignments can have on Digital Natives and why it is relevant for their personal skill development and future careers. As such, depending on the subject area, it is recommended to consider industry certifications or trainings as part of an assignment which can be completed by students remotely. This allows students to develop their professional skills while being able to add a novel certification to their résumé in order to distinguish themselves in the job market. Examples may include certifications obtained from the Google Academy or other industry-relevant educational programs. Simulations are another fruitful way to allow students to apply their learning in a practice environment before starting their careers. Examples for the field of marketing may include the MIMIC Pro Simulation or the MIMIC Social simulation (Stukent, 2019), in which students run digital marketing campaigns with thousands of simulated dollars.

In line with critics who fear a growing isolation of students learning in online environments (Song & Singleton, 2004), it may be helpful to design assignments that foster group work and student-student engagement online. Such assignments may involve introducing students to case studies, or if possible, to real companies that allow students to work on a small consultancy or campaigning project with the company's guidance. One example applicable in the marketing field may include giving students the opportunity to complete a group work project by acting as an agency that consults a business of their own choice on a given task or subject matter. Another example could be providing a group of students with an opportunity to develop a Public Relations strategy or marketing communications campaign for a business. This campaign could include communication materials, creative ideas, a proposed campaign timeline, and/or a specific budget depending on the instructor's tailoring of the assignment based on student needs/course objectives. Thus, students are enabled to connect with professionals in their field of interest and gain real-life experience working with a business while improving their teamworking skills online, which increases their future employability and likely fuels their interest in the subject-related field. Together, assignments involving certifications, simulated realities, or real-life projects show students the relevance and applicability of the content material while fostering peer-to-peer interaction.

Strategy 4: The Value of Student Reflection

This final strategy builds on all previous strategies and focuses on the formulation of ideas for the individual student with particular regard to suggested assignments and projects. Educational research has continuously demonstrated the importance of student reflection in both traditional and online learning environments (Johnson & Aragon, 2003) in order to foster students' learning experience and increase understanding of the class material and novel

content. Referring to learning as "the process of making a new or revised interpretation of the meaning of an experience, which guides subsequent understanding, appreciation, and action" (Mezirow, 1990, p. 1), the highest level of student learning can be achieved by triggering a revised level of interpretation accompanied by critical reflection.

While this may seem naturally achievable by posing questions, sharing personal experiences, or encouraging student discussion in a face-to-face class, it is equally important to implement reflection as a core value into asynchronous online classes. As a result, assignments such as a reflective statement or reflective diary can be paired with the assignments or projects described in Strategy 2 or Strategy 3, serving as an additional way to help students internalize, understand, and value a certain task or group project and its related learning outcomes. Reflective statements will provide students the opportunity to reflect on their performance and critically analyze successes, failures, and key learnings. This will enhance their mastery of subject-related skills by enhancing their understanding of applications in real-world environments and fostering their ability to solve problems independently.

In order to set up a reflective assignment, it may be crucial to educate both instructors and students about the meaning of reflection and the different levels of reflection that can be achieved. For example, this could be based on the four-category scheme for determining the levels of reflection in written work by Kember et al. (2008). In their work, the scholars distinguish between non-reflection, understanding, reflection, and critical reflection and provide helpful examples and definitions with regard to written reflective work. Providing students with a definition and category similar to this example may help them achieve the best reflective outcomes. Reflection can successfully be encouraged in asynchronous online classes by including reflective assignments, embedded with the preceding principles.

Conclusion

Online instruction is an important component of higher education and has witnessed immense growth over the past decade, particularly catalyzed by the spread of COVID-19 in 2019-2020, forcing universities worldwide to move classes online. While the present paper aims to suggest strategies for successful content creation and design of online classes drawing on the example of an asynchronous Digital Marketing online class, the final design of a class will remain sensitive to the subject matter of the course as well as the individual and personalized approach by the instructor. A meta-analysis conducted by Bernard et al. (2004) reveals that findings regarding the effectiveness of distance education vary largely across studies and may be subject to each individual component involved, which emphasizes the difficulty in providing an overall solution as well as the important role that the instructor plays

within this process (Lavoie & Graul, 2020). As a result, this work aims to provide a first-hand account of ideas for successful online instruction—derived from case studies and the literature—that are both relevant and applicable to other fields. This work intends to stimulate future research in the areas of higher education and online instruction with particular regard to the importance of individual instructor characteristics. The creativity and openness of the instructor to embrace novel teaching approaches, assignments, and projects is expected to be crucial in designing successful and engaging online classes.

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Student Success: A Literature Review of Faculty to Undergraduate Mentoring

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Abstract

This review summarizes the literature on university faculty to student mentoring programs. There has been a proliferation of mentoring programs because of the perceived benefit to student persistence and retention. While mentoring programs have become common, the research on these programs has not kept pace. Shortcomings identified thirty years ago, such as lack of theoretical guidance, lack of operational definition of mentoring, and poor design continue to plague mentoring research. Recommendations to address these shortcomings and improve internal and external validity are examined. As universities continue to have increasingly constrained resources and pressure to demonstrate strategies to help students be successful, evidence-based research will be increasingly desired. If shortcomings in mentoring research can be addressed, mentoring programs hold the potential to be part of a university's strategic plan to help students be successful.

Keywords: mentoring, student success, faculty to student mentoring

In higher education, student success measures have been studied from many angles for the past 40 years (Bergerson, Hotchkins, & Furse, 2014; Swail, Redd, & Perna, 2003). Studies on attrition estimate that between 40 and 50% of students leave college before graduation (Tinto, 1993; Wirt, Choy, Rooney, Provasnik, Sen, & Tobin, 200; Shapiro, Dundar, Huie, Wakhungu, Bhimdiwala, & Wilson 2018). Attrition rates are even higher for first-generation students (McFarland, 2017; Ross, 2012). Minority students are particularly at risk, with only 34% of African American and 46% of Hispanic students graduating with a bachelor's degree within six years of being admitted to a four-year institution (Ross, Kena, Rathbun, Kewal-Ramani, Zhang, Kristapovich, Manning, 2012).

In response to the large number of students who fail to persist to graduation, colleges and universities have established mentoring programs to aid in student success. There is great variation in the structure of mentoring programs, such as who does the mentoring (e.g., faculty, peers, alumni), level of training for mentors (e.g., formal, informal), theoretical

framework (e.g., framework conceptualized or not), targeted population (e.g., general, first-generation, women, minorities, nursing students), and sophistication of research design (e.g., utilization of comparison group) (Shapiro & Blom-Hoffman, 2004; Gershenfeld, 2014; Castellanos, Gloria, Besson, and Harvey, 2016). Regardless of the structure, increasing student persistence as a measurement of student success is the underlying goal of most mentoring programs.

As universities come under increasing scrutiny regarding successfully educating students and preparing them for careers, it is imperative the programs designed to help students—such as mentoring programs—be carefully planned, structured, and assessed. If a mentoring program is not grounded in a substantive theoretical framework, or lacks sophistication in design and assessment, the university is simply throwing money at a problem without knowing if it is clearly impacting student success.

The purpose of this manuscript is to study and update previous literature reviews in order to identify past and current issues that, if properly addressed, will help university administrators, faculty, institutional researchers, and student affairs personnel with the planning, structure, and assessment of university mentoring programs. It begins by reviewing previously published literature to gain an understanding of issues facing mentoring programs, as well as to give context to the variety of information that such research, up to now, has established about those programs. Second, models of mentoring, as identified by the literature, are explained and explored. Third, theoretical frameworks (or lack thereof) guiding the research on mentoring are examined. Fourth, this article synthesizes the aforementioned literature reviews to conventionalize a functional definition of mentoring. Fifth, best practices in mentoring are identified. Limitations of the research in the field are discussed throughout this review. Finally, a discussion for future research is presented.

Review of Mentoring Literature

Since 1991, there have been three well-known comprehensive literature reviews conducted regarding university mentoring programs. Maryann Jacobi (1991) conducted the first review of the literature on mentoring and undergraduate academic success. Regarding the questions: "Does mentoring help students succeed in college? If so, how?" Jacobi studied more than 100 articles and found both the theoretical and empirical answers to be lacking. Most of the studies dated from the mid-1970s to the early 1990s and provided descriptions of the mentoring programs designed to promote academic success, but substantially fewer systematic evaluations of these programs. Programs that did provide evaluation data often had methodological problems that limited both internal and external validity. Jacobi (1991)

summarized her literature review by recommending that future studies: (1) include more descriptive data, such as the number of students per mentor; (2) provide more rigorous quasi-experimental research design; (3) evaluate the effectiveness of formal mentoring programs; (4) better understand the dynamics and development of mentoring relationships; and (5) link theory to academic outcomes.

The second review by Crisp and Cruz (2009) examined 42 empirical studies from 1990 through 2007. They found over 50 definitions of mentoring, with minimal definitional consistency across studies. Though Crisp and Cruz found little agreement about the definition of mentoring, they did find traits of mentoring that were reinforced by the literature such as: (1) effective mentoring relationships focus on the growth and accomplishment of an individual; (2) effective mentoring includes broad forms of support, such as assistance with professional and career development, role modeling, and psychological support; and (3) effective mentoring relationships are personal and reciprocal.

Of the studies Crisp and Cruz (2009) examined, only 19 were quantitative, and most used non-experimental methods. Only five studies (Campbell and Campbell, 1997; Kahveci, Southerland, & Gilmer, 2006; Rodger and Tremblay, 2003; Salinitri, 2005; Sorrentino, 2007) used an experimental or quasi-experimental design. Just as in the Jacobi (1991) review, those studies reviewed by Crisp and Cruz (2009) continued to be plagued by methodological issues, including lack of an operational definition of mentoring specific enough for replication, failure to test or report the validity of survey items, reliance of self-reported benefits of mentoring as outcome measures, only one-time point in data collection, over-reliance of descriptive methods as the main analysis, lack of demonstrating how the sample was representative of study population, and failure to utilize a comparison group. Their greatest concern, however, continued to be the absence of theory guiding the mentoring process.

Crisp and Cruz (2009) identified the Campbell and Campbell (1997) study as the most methodologically rigorous. Using an experimental design to investigate the effects of mentoring on minority students' grade point averages and retention rates, Campbell and Campbell found that minority students who received faculty mentoring had a significantly higher GPA and were twice as likely to persist as non-mentored minority students ($p<.001$).

The third and most recent review by Susan Gershenfeld (2014) looked at more than 50 articles that specifically focused on university mentoring programs and found limited overall academic progress made on key shortcomings, such as an operational definition of mentoring and weak research designs identified by two previous reviews (Crisp & Cruz, 2009; Jacobi, 1991). The one area where she did find substantive progress was in the use of theory, with 70% of the studies being guided by a theory or conceptual framework. This more recent literature review by Gershenfeld identified 11 different theories used. Tinto's (1987, 1993)

social integration theory was used most often. According to Tinto, students who were integrated into the campus culture both within and outside of the classroom are more apt to persist and graduate.

While theoretical progress has been made since 2009, the same cannot be said for methodological rigor. Threats to external validity, such as small sample sizes, single geographical location, and narrowly focused programs, have limited generalizability. While Gershenfeld (2014) continued to identify methodological limitations, she did make a significant contribution to the field of mentoring by applying the Levels of Evidence-Based Intervention Effectiveness (LEBIE) developed by Jackson (2009) to assess methodological rigor for evidence-based practice. LEBIE includes five levels: Level 1 = Superior; Level 2 = Effective, Level 3 = Efficacious, Level 4 = Emerging, and Level 5 = Concerning. None of the studies reviewed by Gershenfeld (2014) qualified for the two highest levels because none used an experimental design. Five studies qualified for Level 3 by using a nonrandomized control or a comparison group. Four studies met Level 4 requirements. Most studies, 11, received the lowest classification of Level 5. These Level 5 studies only collected data at one point in time on mentees and/or mentors, with no comparison group. In summary, most studies reviewed by Gershenfeld (2014) continue to have the same methodological concerns as those noted by Crisp & Cruz (2009) and by Jacobi (1991). While each of the studies Gershenfeld reviewed reported some positive effects of mentoring, because of the methodological limitations identified, the reports on the positive impacts of mentoring need to be viewed with caution.

In addition to the level system using LEBIE, Gershenfeld made another significant contribution in her review by identifying the dependent variables for each study. Of these studies reviewed, 60% (n=12) used more subjective measures, whereas the other 40% used more objective measures. In some cases, the subjective measures were used as proxy measures for predicting academic and other outcomes.

The third and final contribution from Gershenfeld (2014) was a description of the operational features of each study, such as number of students who had access to mentors, nature of mentor/mentee relationship, mentor-mentee ratio, volunteer status, financial compensation, frequency of meetings, duration of mentor/mentee relationship, training resources for mentor, and ongoing supervision of mentor.

Models of Mentoring

Just as definitions of mentoring vary in their scope and meaning, so do the models of mentoring. Mentoring includes models such as academic, psychosocial, research (graduate and undergraduate), career development, and role model (Thiry & Laursen, 2011; DeAngelo,

Mason, & Winters, 2016; Crisp, Baker, Griffin, Lunsford, & Pifer, 2017). While there are many models to evaluate, this review will focus on academic, psychosocial, and research mentoring.

Academic Model of Mentoring.

Academic mentoring involves helping students improve grades, increase the number of credits completed, improve the persistence of students, and increase the retention rates in college programs (Campbell & Campbell, 1997; Sorrentino, 2007; Masehela & Mabika, 2017). According to Masehela & Mabika (2017), academic mentoring also involves a "mentor [that] is knowledgeable in a specific academic area of expertise and should share that knowledge and skills with their mentees" (p. 170).

Sorrentino (2007) evaluated a mentoring program called Search for Education, Elevation, and Knowledge (SEEK) to specifically look at the academic performance of at-risk university students. The results indicated that mentored at-risk students had higher GPA's and were less likely to be dismissed from school than non-mentored students. Masehela & Mabika (2017) found similar results in their evaluation of the mentoring program at the University of Venda.

Psychosocial Model of Mentoring.

Mentoring is defined as more than just impacting the academic performance of students, but also assisting them with psychological and social issues that arise while they are in school (Masehela & Mabika, 2017). In higher education, "the word psychosocial is often viewed as students making preparations to adapt to campus life which entails social integration, well-being and self-confidence" (Ismail, Abdullah, Ridzwan, Ibrahim, & Ismail, 2015, p. 54). Livingstone & Naismith (2018) considered the psychosocial mentoring as more of a pastoral model that provided for a more open relationship in which academic and personal concerns could be discussed.

Phinney, Torres Campos, Padilla Kallemeyn, & Kim (2011) looked specifically at Latino students and focused on academic motivation, belonging, depression, obstacles, self-efficacy, stress, and support. The results indicated the mentees improved on self-efficacy, had less depression, and lower stress scores than their non-mentee counterparts. Ismail, et al. (2015) found that mentor programs do have an impact on mentees' psychosocial development and concluded, "Recent studies in university/faculty mentorship programs disclose that if mentors appropriately implement such mentorship practices this may have a positive impact on mentees outcomes, especially in psychosocial development" (p. 54). Livingstone and Naismith (2018) concurred with Ismail and found a strong correlation that reflected positively on pastoral mentoring models.

Undergraduate Research Model of Mentoring.

In addition to academic and psychosocial models, the Undergraduate Research Experience (URE) mentoring model provides undergraduate students with research experiences under the guidance and direction of university faculty (Behar-Horenstein, Roberts, & Dix, 2010). According to Kardash (2000), URE mentoring models provide opportunities for students to learn and develop higher-order thinking skills, to integrate information across disciplines, and encourage students to set high standards. Thiry & Laursen (2011) also conclude that UREs provide professional socialization, intellectual support, and personal and emotional support for the students. Behar-Horenstein et. al. (2010) found that faculty and students felt that URE mentoring models promote intellectual and personal growth in the undergraduate researchers. Kardash (2000) found evidence that supports the idea that URE mentoring models have a positive impact on undergraduate research skills.

While the models vary widely, Anderson (1995) observed a positive relationship between undergraduate academic success and access to faculty mentoring. This conclusion is echoed in the academic community in the USA and other countries (Sharma, 2015; Aikens et al. 2016; Cornelius, Wood, & Lai, 2016). Regardless of the targeted population, type of university or location, mentoring programs have gained popularity on university campuses due to their perceived positive effects on persistence and retention.

Theoretical Frameworks in Mentoring

The reviews by Jacobi (1991) and Crisp and Cruz (2009) identify the lack of theoretical or conceptual framework as a limitation in the field. Gershenfeld (2014) and Johnson, Rose, & Schlosser (2007) found that, while about 30% of studies were void of theoretical framework, many supported influential models for mentoring. There were improvements made from the first review by Jacobi (1991) to the Gershenfeld (2014) review, but few studies worked to link theory with methodology. Most studies simply gauged satisfaction of mentoring and called that sufficient. The most refined theoretical models of mentoring have rarely been researched. Table 1 provides a brief description of the theory or conceptual frameworks that were used in mentoring studies. While many of the frameworks are shown, Table 1 is by no means an exhaustive list. Because of the wide range of outcome measures that modern mentoring programs should include, Gershenfeld (2014) suggests that future mentoring programs use more than one theory or framework to guide the research.

Table 1. *Theory or Conceptual Frameworks of Mentoring*

Type	Description	Author(s)	Times Listed
Kram's Mentor Function	Identified the primary factors of emotional, instrumental and networking functions of the mentor/protégé relationship	Johnson, Rose, and Schlosser (2007)	1
Student Approaches to Learning Paradigms	Student peer mentoring as an intervention technique to help students improve understanding of different learning paradigms	Fox, Stevenson, Connelly, Duff, and Dunlop (2010)	1
Social Capital and Social Networks	The Gannon and Maher article indicates that social capital can be leveraged through mentoring programs using Alumni and Academics. Social capital being the relationships garnered through mentoring.	Gannon and Maher (2012) Morales (2010)	2
Social Integration	Hall and Jaugieitis recommend peer mentoring that focus on engagement to socially integrate 1st year students. Hu and Ma evaluated student persistence and the positive roles of mentors to students. Mekolichick and Gibbs studied the cultural capital advantages for first-generation college students in undergraduate research opportunities	Hall and Jaugieitis (2011) Hu and Ma (2010) Mekolichick and Gibbs (2012)	3
Hunt and Michael's Model of Mentoring	This comprehensive framework considers environmental factors, mentor characteristics, protégés' characteristics, duration, and outcomes.	Johnson, Rose, and Schlosser (2007)	1
Capitalization	Peer mentors participate in voluntary opportunities that provide growth and development	Holland, Major, and Orvis (2012)	1
Cultural Capital	Social class, as it relates to educational outcomes. Promotes some students and hinders others based on their social class.	Mekolichick and Gibbs (2012)	1
Feminist and Network Models	Networking women together as mentors and mentees to improve the climate for female undergraduate students	Putsche, Storrs, Lewis, and Haylett (2008)	1
Passive versus Active Learning	Mentors expected to just read the lesson (passive) versus mentors expected to teach the lesson after reading (active)	Amaral and Vala (2009)	1
O'Neil and Wrightsman's Sources of Variance Theory	The framework incorporates primary factors of mentorship looking at personality of both mentor and protégé, relationship parameters, characteristics, environment, activities, and diversity.	Johnson, Rose, and Schlosser (2007)	1

Conceptualizing A Functional Definition of Mentoring

All three literature reviews previously discussed (Jacobi, 1991; Crisp & Cruz, 2009; Gershenfeld, 2014) identify the lack of a consistent mentoring definition as a limitation of research in the field. Jacobi provided 15 definitions of mentoring, while Crisp and Cruz identified 50 more. Mentoring definitions generally consist of a "who, what, and why" regarding mentoring. The "who" describes the mentor and mentee, the "what" are adjectives such as "guide and facilitate," and the "why" is described with statements such as "positively socialized" or "strengthen student engagement." Table 2 lists examples of mentoring definitions so as to highlight their disparate natures and illustrate why it is often difficult to differentiate mentoring from other types of student support.

Table 2. *Mentoring Definitions*

Author	Definition
Gallup, Inc. (2016, February 02).	Supportive relationships and experiential learning opportunities. (pg. 14).
Livingstone, N., & Naismith, N. (2018).	An experienced person (mentor) provides career and/or personal support to another individual (protégé).
Crisp, G., Baker, V. L., Griffin, K. A., Lunsford, L. G., & Pifer, M. J. (2017).	A relationship between two individuals, whereby the more experienced person is committed to providing developmental support to the other, less experienced person. (pg. 18).
McWilliams, A. (2017).	Building a purposeful and personal relationship in which a more experienced person (mentor) provides guidance, feedback, and wisdom to facilitate the growth and development of a less experienced person (mentee). One-to-one interactions that involve the delivery of guidance, feedback, and lessons learned. (pg. 70).
Cornelius, V., Wood, L., & Lai, J. (2016).	The process by which a student or mentee is positively socialized by a faculty member or mentor into the institution and/or profession. (pg. 193).
Gershenfeld, S. (2014).	Aim to strengthen student engagement and relationship building in order to improve academic performance and college retention. (P 365)
Allen, T. D., & Eby, L. T. (2010).	Mentoring relationships at this level typically focus on advising students in academic and career decisions. Psychosocial functions of undergraduate mentoring may be related more toward supporting a student in adjusting to life apart from home and making wise personal decisions. (p. 326-327)
Long, E. C. J., Fish, J., Kuhn, L., & Sowders, J. (2010).	Mentoring is an interdependent relationship; each person influencing and being influenced by the other. "Mentoring is a deep understanding and appreciation for the circumstances and unique abilities of a protégé that goes beyond the interest in any single personal dimension" (p. 12).
Crisp, G., & Cruz, I. (2009).	Mentoring is focused on the growth and accomplishments of an individual and may include several forms of assistance and broad forms of support (academic, professional, career); it is personal and reciprocal. (Pg. 527-528).

Johnson, W. B. (2002).	Mentoring is a personal relationship in which a more experienced (usually older) faculty member or professional acts as a guide, role model, teacher, and sponsor of a less experienced (usually younger) graduate student or junior professional. A mentor provides the protégé with knowledge, advice, challenge, counsel, and support in the protégé's pursuit of becoming a full member of a particular profession. (p. 88)

The lack of conceptual agreement about the definition of mentoring is problematic to the field because it limits the ability to measure what is being offered and what constitutes a successful mentoring experience. Nora and Crisp (2007) made a significant contribution by focusing on the functions of mentoring rather than an operational definition.

Though Gershenfeld (2014) acknowledged the lack of definition agreement as problematic, she recognized that reaching consensus was futile and instead identified in her review the functional aspects of mentoring advanced by Nora and Crisp (2007). Nora and Crisp theoretically framed the underlying components that students identified as constituting a mentoring experience. Nora and Crisp identified four major domains or latent constructs from the mentoring literature:

- Psychological/emotional support: listening, providing moral support, identifying problems, and providing encouragement.
- Goal setting and career paths: assistance with setting academic/career goals and decision making.
- Academic subject knowledge support: acquisition of necessary skills and knowledge, educating, evaluating, and challenging mentee academically.
- Role model: the ability of mentee to learn from a mentor's present and past actions and achievements/failures.

Using factor analysis, Nora and Crisp (2007) substantiated the existence of three of the four latent constructs. Role modeling was not substantiated. In sum, mentees need mentors who create an emotional safety net by providing support and encouragement. Students need a mentor who helps the student self-appraise with feedback as the student explores their options and sets goals. Nora and Crisp (2007) made a substantial contribution to the mentoring field by providing a conceptual base to support the structure of future mentoring programs.

Mentoring Best Practices

Campbell (2010) identified the following six best practices of university mentoring programs: (1) Formal Mentoring; (2) Recruiting and selecting mentors; (3) Matching mentor

and mentee; (4) Mentor training; (5) Appropriate boundaries; and (6) Frequency of interaction between mentor and mentee.

Formal Mentoring Programs.

One factor that distinguishes formal vs. informal mentoring programs is the level of intentionality in the program. Formal mentoring programs involve carefully planned and intentional mentoring relationships; expectations of participants; third-party mindful matching; and university support for time, space, and activities (Anderson and Others, 1995; Cornelius, et. Al. 2016).

Recruiting and Selecting Mentors.

Mentors should be selected for positive personality characteristics (self-awareness, warmth, empathy, integrity, and honesty) and behavioral characteristics (a history of mentoring, effective communication skills, availability, productivity, and respect of colleagues). Castellanos et al. (2016) reinforced this practice with their study of the mentor's role in assisting undergraduates with fitting into campus culture.

Matching Mentor and Mentee.

The match between mentor and mentee is essential to the quality of the relationship. Facilitating a natural relationship, without forcing it, is best practice. Fassinger and Hensler-McGinnis (2005) provide a matching model for developers of mentoring programs. These activities help mentees seek the kind of mentor with whom they would like to work.

Mentor Training.

Boyle and Boice (1998) describe a program where faculty members were mentored by each other in their current duties and roles during scheduled monthly meetings. Participants reported these monthly meetings as very helpful and supportive.

Appropriate Boundaries.

Ingraham et al. (2018) discusses incivility as a barrier to "the development of positive and respectful relationships" (Pg. 18). The mentor needs to create a safe environment so that both mentor and mentee can communicate and clarify needs and expectations.

Frequency of Interaction.

There is no consensus about the frequency and length of meetings between mentor and mentee. Campbell and Campbell (1997) found that over a year's time, mentees averaged 7.28 contacts with their mentors, with a total meeting time of 124 minutes. Campbell (2010) recommends that mentor/mentee meetings be scheduled at regular intervals.

Conclusions, Limitations, and Future Directions

In conclusion, university established mentoring programs have become a common intervention for grappling with the high attrition and low graduation rates of students. While these mentoring programs have become popular, the research to determine their effectiveness has not kept pace. From the three reviews of Jacobi (1991), Crisp and Cruz (2009), and Gershenfeld (2014) and a meta-analysis of mentoring programs by Eby, Allen, Evans, NG, and DuBois (2008), we conclude that mentoring is significantly correlated with a wide variety of positive student outcomes, such as student behaviors, attitudes, and retention rates.

However, due to the three major limitations identified in this review (a lack of an operational mentoring definition, a lack of theoretical guidance, and poor research designs), we do not know if these positive correlations equate to casual effects. Until university mentoring programs address these limitations, universities will continue throwing money at the problem of high attrition and low graduation rates without really knowing if mentoring programs increase student success. We make four specific recommendations for future university mentoring programs. These recommendations will improve the planning and evaluation of future programs, as well as improve internal and external validity, thus making causal inferences more likely.

First, while the mentoring field has made strides in identifying theoretical frameworks used in mentoring programs (Gershenfeld, 2014), this continues to be a glaring shortcoming, because without theoretical links, the effects of mentoring on academic success simply cannot be explained. Describing theoretical links between mentoring and academic success is not just an intellectual exercise; it shifts the focus of what is being emphasized. In empirical studies, theory guides how the independent variable (in this case, mentoring) will be measured and the selection of dependent and mediating variables. Jacobi (1991) cautioned that when models or frameworks remain implicant, mentoring programs may be inadequately developed. We suggest using the principles of logic modeling and "if-then" statements to link theoretical frameworks with variables of interest and how these variables will be measured. We echo Gershenfeld's (2014) recommendation that future mentoring programs use more than one

theory or framework to guide research on mentoring because of the wide range of outcomes measured in modern programs.

Second, it is unlikely that the field of mentoring will ever reach a consensus of what constitutes an operational definition of mentoring. We suggest that research on mentoring can move forward using a functional definition of mentoring clarified by the work of Nora and Crisp (2007). Using this functional definition of mentoring, we propose that mentoring programs include: (1) psychosocial support; (2) career guidance, and (3) academic and program guidance.

Third, and most importantly, is the need for more rigorous research designs in the studies of undergraduate mentoring programs. Although these problems were identified by Jacobi in 1991, little overall progress has been made. Modern mentoring programs need to have adequate sample sizes, be in more than one geographic location, be broadly focused, use comparison groups that will allow for within- and between-subject analysis, and use (pre- and post-mentoring) psychometrically sound subjective assessment, as well as objective assessments. By addressing these design issues, future researchers can improve the external and internal validity of their program, and better understand if mentoring programs are indeed helping students achieve their educational goals.

Lastly, each of the best practices identified in this review need to be carefully worked through. Implementing these best practices will help clarify expectations for mentor and mentee and ultimately improve the overall experience of mentoring.

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Open Access Textbooks in a Professional Communication Classroom: A Pilot Study

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Abstract

In this paper, we share our findings from a curricular innovation project: a small pilot study replacing a conventional professional communication textbook with an open access book. Results showed that students received the change favorably, and a final grade comparison showed no variation between similar courses that used conventional books and those that used open access books. While more research is needed, this study demonstrates the promise of open access books and open educational resources (OER), and that further study is needed in this area.

Keywords: open access, OER, textbook, professional communication, library, pedagogy

Introduction

This paper shares findings from a pilot study conducted in 2017 in a mixed-majors Introduction to Technical and Professional Communication (TPC) classroom. The goal of the pilot was to better understand the results of replacing a conventional textbook with open educational resource (OER) books, "teaching, learning and research materials in any medium—digital or otherwise—that reside in the public domain or have been released under an open license" ("OER defined," n.d.). Often published under a range of Creative Commons licenses, these materials are increasingly being adopted in classrooms in response in part to college initiatives seeking to increase reading in the classrooms, increase enrollment and retention, decrease time to graduation, and reduce costs for students.

This last point—reducing costs for students—could be one answer to the rising costs of textbooks. Some students are forced to go without these vital learning tools (Borchard & Magnuson, 2017; Davis, Cochran, Fagerheim, & Thoms, 2016; Goodsett, Loomis, & Miles, 2016; Okamoto, 2013). Borchard and Magnuson (2017) found that only 41% of the respondents always purchased the textbooks associated with their courses (p. 4). They also concluded that the majority of students (96% of respondents) felt lower textbook costs would have a positive impact on their ability to purchase food, transportation, and housing.

Nevertheless, OER adoption is not without challenges. For example, the high level of collaboration needed to develop and use an OER requires "a high level of buy-in" from all stakeholders (Borchard & Magnuson, 2017, p. 10). In addition, it takes patience and consideration to navigate the complexity of schedules and deadlines associated with textbook development (Goodsett et al., 2016). To add to these challenges, institutional policies, learning objectives, and access formats must all mesh to form effective use of an OER. Library staff frequently invest hours of labor and university resources curating OER content (see Davis et al., 2016; Okamoto, 2013; Salem, 2017). In short, it takes time and resources to develop "free" materials (Mishra, 2017; Borchard & Magnuson, 2017).

With these challenges and benefits in mind, and with critical support from the university library, we conducted a small pilot study to replace a traditional textbook with an OER in an introductory TPC course located in the English department at Utah State University. While it is difficult to compare courses and outcomes out of a range of factors including instructor technique, student population, and minor syllabus changes, and because studies of this kind require years of data to provide definitive findings, we only take early steps towards understanding possible implications of replacing a traditional textbook with an OER. In this limited study, we found students responded positively to the replacement.

In this paper, we briefly introduce TPC pedagogy and locate the use of OER materials within that literature. Second, we preview our pilot study design and share our early findings. Finally, we share our takeaways and suggestions for more research in this area.

Technical and Professional Communication Pedagogy: History and New Directions

A short review of the history of TPC—and specifically *technical* communication—pedagogy illustrates a move from an instrumentalist perspective with a seemingly singular approach, to a vast array of topics and foci taught in a variety of settings. As academia continues to answer

the call to equip future practitioners to enter the workplace successfully, it faces a challenge of adapting curricula to meet the needs of a growing and changing workplace.

Textbooks are often where instructors turn to strengthen engagement with the overall goals of the course (Barker & Matveeva, 2006; Chong, 2016), and they can be a powerful tool in any classroom. As Barker and Matveeva (2006) stated, "textbooks give instructors various pedagogical tools and materials for classroom discussions and activities, and textbooks are essentially what students . . . use in learning" (p. 151). However, given the diverse professional needs of future students, it may be difficult to write a general use TPC textbook (Wolfe, 2009). To add to the difficulty, in mixed major courses, students may be from engineering, microbiology, accounting, or graphic design (Carnegie & Crane, 2018; Melonçon & Henschel, 2013).

While instructors find themselves choosing texts or are given texts by their programs that come close to fitting their individual strengths and teaching methods, they may need to add supplemental materials to make the textbook support the course goals. These materials, such as website links, are used to "make up (in some ways) for weaknesses in the textbooks" (Barker & Matveeva, 2006, p. 207).

Open Access and Open Educational Resources

OER and open access books could play a role in re-envisioning of technical communication curriculum. Goodsett et al. (2016) found that OER gives the instructor the potential to have more adaptive control over which course materials will enhance these outcomes (see also Borchard & Magnuson, 2017; Davis et al., 2016; Okamoto, 2013).

In brief, OER use developed alongside digital technologies. Digital innovations motivated the collection of art and histories in an effort to make interconnected materials available to a larger population with easier access for research and instruction (Bailey, 2017). University initiatives and digital projects categorized and compiled connected information into collections of digital knowledge in spaces such as Digital Commons and other institutional repositories. These initial movements worked to provide access to already curated materials, leading to the development of open courseware, open course materials, and other techniques used to develop and support access to information and knowledge, including the development of openly licensed textbooks (Davis et al., 2016).

Crucially, scholarship demonstrates that for an OER to be effective, instructors must have institutional support through policy and funding, instructor participation in content development to meet learning objectives, and student willingness to engage in new

information delivery formats. University libraries are often the institutional resource for OER development and design and have traditionally provided access to learning materials through course reserves and institutional repositories (Okamoto, 2017). Librarians have also worked with faculty to blend an OER with content from library-licensed databases and previously constructed course materials (Borchard & Magnuson, 2017; Davis et al., 2016; Okamoto, 2017).

The Pilot Course: Introduction to Technical and Professional Communication

The goal of the pilot study was to take the first steps toward understanding the effects of using an OER in one regularly taught, well-attended course. The Introduction to Technical and Professional Communication course was chosen for several reasons.

- This course has a high demand and is expected to remain so in the future.
- At the time of this study, over half of the students were not English majors.
- Many (though certainly not all) textbooks for this course are expensive.
- Even with inexpensive textbooks, students were still unable to buy the required book because of the cost.

With the oversight and approval of our institution's IRB office (#8746), we surveyed four sections taught in the same year (2017), selected because they had a similar, recently redesigned syllabus, similar student demographics, and similar learning outcomes.

We designed and distributed two anonymous, 10-question surveys to understand students' perceptions of the course's OER (see Appendix A and B). We distributed the first survey in the first week of class, prior to an introduction and tutorial on how to access and use the OER. Students were read an IRB-approved recruitment pitch based on the letter of information, and then the surveys were distributed.

These surveys were designed for students to self-report their perceptions and anticipated use of OER and open access books, and to learn more about how their overall reading habits compared to their reading in this course. Based on previous studies demonstrating the benefits and challenges of using OER (Borchard & Magnuson, 2017; Davis et al., 2016; Goodsett et al., 2016; Okamoto, 2013), the questions included:

- If students had previously used an OER
- How they planned on accessing course material

- What (if any) their concerns were about using an OER
- How much of a course reading they typically completed
- If the cost of a textbook had ever influenced their decision to take a course.

We distributed a second survey with similar questions to see if they reported a change. Importantly, the surveys were distributed by one of the authors of the study who was not an instructor of this course and who did not have control over, or access to, student grades. The instructor of record did not have access to the surveys until the end of the semester and after grades had been recorded. We are aware that some students completed one and not the other, based on attendance. Additionally, some students dropped the course or were added after the initial survey.

Library Help

In Fall 2016, the library launched Utah State University's College of Humanities and Social Science's grant program to support faculty in adopting, adapting, and creating an OER in their courses. As grant recipients, we used this opportunity to form the basis of our research. Librarians worked intensively with instructors, including the authors of this study, to encourage instructor experimentation and innovation in using an OER. Librarians were on hand throughout the implementation process to help locate and implement suitable materials. They also conducted classroom training with students on how to access OER materials. Overall, their support was critical to our success.

Pilot Study Results

The purpose of our surveys was to understand student self-reported perspectives on the new free, open-access textbook. Because this was their first technical TPC class, students would be unable to compare taking the TPC course with a traditional textbook to taking a course with the open access book. We asked them instead to *compare the experience of using a traditional textbook in other courses* to the OER in this course. In both surveys, participants had space to add personal comments about their experiences and opinions because we wanted to hear about their experiences in their own words. Our survey results are organized below in two sections: general student *perceptions* of the class's OER and student *experiences* with it.

Student Perceptions: Positive Perception of OER Regarding Cost

We asked students about prior knowledge and encounters with OER use. They overwhelmingly indicated they had little to no experience with this type of textbook:

- 56% indicated they had not heard of OER materials before taking our course
- 25% indicated they had one prior class using OER materials.

Regardless of previous exposure, students indicated the no-cost option offered a strong appeal. 85% indicated that the cost of the textbook had some level of influence on their decision to take a course.

The cost of textbooks was a common theme among students who chose to add supplemental comments to their survey responses. One student wrote, "I appreciate not having to spend a lot of money for a book I'll only use half the time," which resonated with student complaints in the past about justifying the textbook cost. 97% of the students indicated they would take another course with little to no reservation.

Experiences: Reading Habits, Challenges with the Digital Format, and Challenges with Access

We also wanted to learn more about their reading habits and any challenges they had faced with the digital format or with accessing course material. In the entrance survey, we asked students how much reading they typically do in other courses. We wanted to know if using an OER would change the amount of course materials students would read. We anticipated there would be no change between classes. We were surprised, however, that the survey responses indicated a decrease in reading. In the entry survey, students self-reported the amount of reading they completed in previous courses:

- 60% indicated they read most of the course materials
- 23% reported reading all of the course materials.

After students completed the course, the exit survey asked them to self-report the amount of assigned material they felt they actually read during the course. Although the highest percentage of students (42%) indicated they read most of the course materials, there is a marked decrease from the students who reported reading most of the materials from other classes: from 60% to 52% indicated reading half or less than half of the OER used in the

course. The decline in reading could be the result of several factors, some not made aware to us in student reports. We know, however, that the delivery format was new and could be unfamiliar to students. If this factor continues to ring true in future research into OER classroom use, these results could be indicative of the need to revisit the way we introduce and model OER in the classroom.

Students were also asked about their method of access. We anticipated students would indicate using their laptops to access the course OER. In fact, students unanimously reported they anticipated using a computer to access the OER. After completing the course, students were asked what methods they had used throughout the class to access the material. Overwhelmingly, students chose to access materials on their laptops (93%). 23% of students also accessed the OER materials at some point during the semester on a mobile device, but only a small population (3%) chose to print any of the materials. There may be a link between the decline in reading and the large percentage of students who accessed the book on a mobile device.

Student Concerns

In the open comment sections, some students articulated a few concerns such as the layout of the OER text, the efficacy of textbook integration in the Learning Management System (LMS), and the manner in which readings were assigned.

- "I prefer to use OER over having a textbook [;], it is extremely convenient for me."
- "I appreciate not having to purchase a textbook I would use for four months before tabling it almost indefinitely. It makes me more confident in selecting more credit hours and exploring different areas of study."

Students highlighted the ability to take the course without the added burden of purchasing a text they felt they might not use again. Our survey comparison indicates that students use the OER, can access the OER, and appreciate the ability to take an introductory course without a significant financial burden.

Conclusion

Though the pilot study was limited, and more research is needed on using an OER in TPC courses, the research leaves us motivated to move forward. As we look to the future, we see the opportunity to broaden our use of open access and OER texts and meet the challenges we discovered. To address reported challenges such as the difficulty of using a digital format and

the decline in materials read, we will devote instruction time to modeling the use of OER materials. For example, we plan to encourage the use of electronic devices in the classroom to motivate students to access the OER textbook throughout the discussion and workshops. As instructors, we will use individual conferences and office hours to ask students individually about how they are accessing the OER materials and their level of engagement with the assigned readings.

Our experience with an OER in the TPC classroom also motivates us to embrace innovative pedagogy. Using an OER may allow for the integration of more content than textbook materials such as reading logs, interactive web sites, and video tutorials.

We also plan to continue taking advantage of the flexibility of the OER format to adapt course materials to fit student needs. Embracing the dynamic nature of OER and open access texts may also lead to an overall more student-centered classroom. We can access and evaluate course materials and design *alongside* our students in an ongoing dialogue. As we continue to use an OER, we anticipate building a growing depository of resources from which to pull from each semester.

Will the use of an OER in these classes significantly impact time-to-graduation rates? Will the adoption of an OER lead to an increase in enrollment in our TPC major? As we consider adopting an OER in these future classes, more studies will need to be conducted to test these questions. At the time of writing, open access and OER texts in TPC is broadly untested, and we want to take the next steps with caution and purpose. We remain optimistic about an openly accessible future for students.

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Appendix A. OER Student Entrance Survey

Q1 - Before this class, what has been your experience with Open Educational Resources (OER)?

1. I have used OER many times before
2. I have used OER at least once before
3. I have heard of OER, but I have never used them
4. I have never heard of or used OER before

Q2 - How do you plan on accessing and reading course materials?

1. Online using my laptop or a campus computer
2. Using my mobile device(s)
3. Downloading materials onto a digital device or flash drive
4. Printing out physical copies
5. Other (please specify):

Q3 - What concerns you the most about using OER instead of a traditional textbook?

1. Using and navigating the technology required to access the OER
2. Having access to the internet and/or a computer to be able to complete readings
3. Having to read and study off of a computer screen—I prefer reading from a book
4. Quality of the OER and getting the same education I would with a textbook
5. Other (please specify):

Q4 - How much of the readings do you typically complete for your courses?

1. All
2. Most
3. About half
4. Less than half
5. None at all

Q5 - How much of the OER course readings do you anticipate you will be able to complete?

1. All
2. Most
3. About half
4. Less than Half
5. None at all

Q6 - What do you think will be the most challenging aspect of completing the OER course readings?

1. Not having enough time
2. Not being interested in the subject
3. Not having a traditional textbook/using online materials
4. Other

Q8 – Has the cost of a textbook influenced your decision to take a course?

1. Not at all
2. Somewhat
3. It is always a contributing factor

Q7 - Do you have any comments or concerns about using OER for this course?

Appendix B. OER Student Exit Survey

Q1 - How did you access and read the course materials?

1. Online using my laptop or a campus computer
2. Using my mobile device(s)
3. Downloading materials onto a digital device or flash drive
4. Printing out physical copies
5. Other

Q2 - What concerns you the most about using OER (open educational resource) instead of a traditional textbook?

1. Using and navigating the technology required to access the OER
2. Having access to the internet and/or a computer to be able to complete readings
3. Having to read and study off of a computer screen—I prefer reading from a book
4. Quality of the OER and getting the same education I would with a textbook
5. Other (please specify):

Q3 - How much of the OER course readings did you complete?

1. All
2. Most
3. About half
4. Less than Half
5. None at all

Q4 - What do you think was the most challenging aspect of completing the OER course readings?

1. Not having enough time
2. Not being interested in the subject
3. Not having a traditional textbook/using online materials
4. Other (please specify):

Q5 - Would you consider taking a course that uses an OER in the future?

1. 1Without reservations
2. With some reservations
3. I would not take a course using an OER in the future

Q6- If you answered the previous question with an answer other than "without reservations," please tell us why. (Short answer)

Q7- Overall how easy was it to use the OER?

1. Very Easy
2. Somewhat easy
3. Somewhat difficult
4. Very difficult

Q8- Which accessibility tool(s) do you use when accessing the OER? Check all that apply.

1. Screen reader
2. Color contrast tool
3. Translation tool
4. I do not use an accessibility tool
5. Other (please specify):

Q9- Other than the course OER and other provided readings and resources, what outside resources did you use for classwork? (short answer)

Q10 - Do you have any comments or concerns about using OER for this course?

Three Key Principles for Improving Discussion-Based Learning in College Classrooms

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Abstract

Discussion-Based Learning (DBL) can be an effective pedagogical tool for student engagement and developing higher-order thinking skills. However, DBL can be a challenging endeavor for college teachers for various reasons. The purposes of this article are to identify those challenges, present three key principles, and share several practical ideas that will help improve discussions in college classrooms.

Keywords: discussion, active learning, student engagement, teaching methods, discussion-based learning

Introduction

Discussion-based learning can be an effective pedagogical tool for promoting student engagement, developing higher-order thinking skills, and improving learning outcomes (Astin, 1985; Bodensteiner, 2012; Garrett, 2011; Howard, 2015; Johnson, Johnson, and Smith, 1991; Murray and Lang, 1997). Discussion can be defined as "a form of group interaction, people talking back-and-forth with one another" about a particular issue, and proposals offered (Dillon, 1994, p. 7). Those proposals could include various understandings, facts, suggestions, opinions, perspectives, and experiences. Discussion-based learning (DBL)[1] is a form of active learning, a constructivist teaching method, and an exchange of diverse "interpretations, explanations, approaches to a problem, or possible solutions, followed by an evaluation" (Herman & Nilson, 2018, p. 1). In its purest form, DBL is not recitation. As Dillon (1994) explains, "People do not discuss a topic that they already know and understand"; instead, they

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[1] This article will use "Discussion-Based Learning" (DBL) as a term for a teaching methodology that engages learners interacting with the instructor/facilitator and/or other learners in various forms of discussion.

discuss issues that they have questions about and "join with others to form an answer" (p. 8). There are numerous reasons for utilizing DBL, including providing opportunities for students to explore diverse perspectives, investigate assumptions, learn the habits of democratic discourse, and experience collaborative learning (Brookfield & Preskill, 1999). Additional benefits include deep, conceptual understanding, integration of ideas, motivation to learn, and retention of the material (Herman & Nilson, 2018).

However, DBL is a challenging endeavor because it is "unpredictable in process," and teachers who utilize DBL must learn "the art of managing spontaneity" (Dillon, 1994, p. 105; Christensen, 1992, p. 15). Unfortunately, most teachers do not receive training on leading discussions, and coaching is typically not offered (Dillon, 1994). Some discussions fail because the topic is not ripe enough for fruitful discussion, the pacing is too slow, or the students may lack enthusiasm for the subject (Brookfield & Preskill, 1999). Another major challenge for many teachers is how to handle dominant talkers (Howard, 2015). In contrast, many students do not see engagement in the classroom as their responsibility; they may even believe that it is unfair to expect them to interact. This mindset derives from classroom norms, where students often assume that they should be passive learners and expect to be lectured to in a traditional classroom. This leads to the norm of civil attention or putting on the appearance of paying attention (Howard, 2015). What can teachers do to prevent or remedy these problems with leading discussions in college classrooms? Many of the challenges associated with DBL can be resolved through the implementation of three key pedagogical principles: creating an inclusive learning environment, preparing students for discussions, and practicing essential discussion skills.

Key Principle #1: Students need an inclusive, hospitable learning environment.

Research has established that the learning environment (or course climate) impacts both motivation and learning (Pascarella and Terenzini, 1991). Various factors can influence course climate, including faculty-student interaction, stereotyping, student demographics, and student-student interaction (Ambrose et al., 2010, p. 170). To lead effective discussions, a teacher needs to create an inclusive learning environment where students feel safe and are not intimidated. Intentionally designing an environment where students feel a sense of community, a safe space where they can take risks, will foster engaging discussions (Strean, 2018). Most students struggle to transition into college because they do not feel a sense of belonging in a college classroom. Students of less privileged and more marginal backgrounds

face even greater challenges as they enter what they perceive to be an unwelcoming or even hostile environment (Carter et al., 2006; Kalsner and Pistole, 2003).

One way for a teacher to increase a sense of belonging in the classroom is to know the names of students and their interests (Center for Teaching and Learning, 1997). The following activity, "Introduce Your Neighbor," can help teachers memorize students' names on the first day of class. First, using the class roster, take attendance by calling the name of each student. In the process of doing so, create a seating chart, and identify where each student is sitting. After calling attendance, invite each student to pair up with a neighbor. Each student will interview their neighbor, asking questions such as their name, where they are from, their hobbies, something unusual about them, exotic places they have traveled, etc. After about five minutes of interviewing, each student will then introduce their neighbor to the class.[2] As each student is introduced, make additional notes on the seating chart about each student (e.g., Sydney plays tennis; Susan loves poetry and prefers to be called "Susie"; Malik recently returned from a trip to Paris).[3] Because one of my goals on Day One is to memorize each student's name I announce that goal to the class, and at the end of the "Introduce Your Neighbor" activity, I point to each student and call them by their first name. Instructors who are willing to invest time and effort in learning students' names and interests during the first class meeting convey a clear message that they care about each student and want to create an inclusive learning environment and establish a community of learners.

Another way to build and strengthen community is to engage students periodically in icebreakers throughout the semester. These icebreaker activities are an investment of time but a significant way for students to get to know each other. Simple icebreakers can be custom-designed or found online and can be used at the beginning of class or as a halftime activity. One icebreaker is "Student Bingo." First, review the student interview notes (collected from the "Introduce Your Neighbor" activity described above), find interesting snippets about each student, and place that information on a bingo-like card (without identifying that student's name). In the icebreaker activity, students must discover which peer's name belongs in each square and confirm it with that student; if they are correct, then the student signs the bingo square that contains information about them. The first student to get a bingo yells it out. However, students typically have so much fun doing this activity that an instructor may want to allow for several bingos before ending the activity.

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[2] Make sure to emphasize that each student needs to teach the class the name by which they want to be known in the class (e.g., Elizabeth may prefer being called "Liz").

[3] I recommend that you ask students to take interview notes that you will collect at the end of this activity. These student interview notes will help you in learning more about the unique interests and experiences of your students.

Key Principle #2: Students need to prepare for discussion.

It is essential to allow students adequate time to prepare for engaging in discussion (Howard, 2015). A teacher who arrives for a class session with a list of questions to pose to the class has an unfair advantage: that teacher already knows the questions that they plan on asking, but the students do not. Consequently, when that instructor poses a question to the class and expects not only immediate but also quality responses invariably, such expectations will likely be shattered. A simple remedy to this problem is to provide students before class with the list of questions that you plan to pose for discussion.

Another method to aid students in preparing for discussion is to invite them to write response papers where the instructor provides a question for them to consider about an assigned reading or topic, and each student is expected to write a page or two and bring their response paper to class (either a hard copy or an electronic version). At the beginning of the class session, the instructor may choose to have several students read their response papers aloud to the whole class or share in small groups or with a partner. Another exercise can be utilized as a way to jump-start discussion by inviting students to respond or ask questions about a particular response paper. If response papers are utilized in these ways regularly, they essentially serve as "tickets" to class, and students know that they are expected to come to class prepared.

An additional strategy to prepare students for discussion is to incorporate informal writing as a regular practice. As part of their course materials, each student will need a composition book or journal. Begin by providing a question prompt for the students to respond to and allow them about ten minutes to write in their journals. During this writing time, the instructor may opt to play quiet instrumental music. Make sure to announce to the class that they may be asked to share what they have written with their peers. After the informal writing exercise concludes, pose the question prompt for either whole-group or small-group discussion. This practice will help prepare more students to engage in meaningful discussions, and according to research studies conducted, combining writing and peer discussion improves student learning (Shewmaker, 2018; Linton et al., 2014).

Key Principle #3: Teachers and students need to practice three skills essential for effective DBL.

For effective discussions, three foundational skills need to be practiced and developed not only by teachers but also by students: questioning, listening, and responding.

Questioning

There are forms of questioning that promote recitation and those that foster discussion. The dominant form of classroom talk is recitation, which also been dubbed by researchers as IRE: Initiate, Response, Evaluate (Walsh, 2015). Recitation is a type of formative assessment, a way to check for understanding. In contrast, questioning for discussion encourages a deeper understanding of concepts and provides opportunities for students to make connections. College teachers should be transparent about course objectives so that students know the learning goals and ensure that the types of questions asked are congruent with those objectives. For example, if a course is intended to focus on developing a student's ability to apply knowledge, then the instructor should intentionally and strategically design questions that promote that level of cognition. Ideally, both teachers and students should be familiar with Bloom's Taxonomy and practice awareness of the types of questions that are being posed in class discussions (Krathwohl, 2002).[4]

Listening

Listening is essential for teachers in a DBL classroom because they must be able to evaluate the understanding of students, help them make connections, and ensure continuity of the discussion. Thus listening means much more than merely being quiet and allowing students to talk; it involves attempting to understand the speaker's point of view and assessing what is being expressed. One of the biggest obstacles to listening effectively is that an instructor can be preoccupied with thinking about what they should say next. Instructors must practice being mindfully present and listening attentively; this not only shows respect to their students but affirms to them that their contributions are valuable.

Likewise, students can be distracted during discussion, which can impair their abilities to listen due to media distractions or concerns about a myriad of social and personal issues. Instructors should establish expectations and guidelines that will allow for respectful civility and attentiveness in the DBL classroom. Furthermore, Brookfield & Preskill (1999) suggest providing students with opportunities to practice listening skills such as the paired listening activity and having a designated listener. In the paired listening activity, two students take turns being speaker and listener. While one student speaks for up to five minutes about a topic they are passionate about (e.g., describing a favorite vacation or movie), the other student practices active listening by demonstrating attentiveness, occasionally asking questions for clarification and repeating key phrases to show their understanding. Another exercise is to assign a student to be the designated listener during a group discussion. Their role is to focus on understanding the views shared by discussants, taking notes, paying attention to the body

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[4] See Appendix for list of sample question stems associated with the Revised Bloom's Taxonomy.

language of participants, raising questions as needed, but not sharing their ideas. At the end of the discussion, they "summarize the main ideas expressed and comment on the participation levels" of their peers (Brookfield & Preskill, 1999, p. 96).

Responding

Choosing how to respond to student contributions during discussion is an equally important but challenging skill. If an instructor is not careful, their response can inhibit student engagement and/or stifle the flow of the discussion. There are at least sixteen techniques for responding to student contributions in classrooms: affirm, evaluate, correct, express wonderment, share gratitude, restate, be silent, use non-verbal cues, explore, extend, challenge, repeat the question, raise a new question, invite, summarize, or make a statement. Rather than elaborate on that list (which may seem extraordinarily daunting), we shall attempt to simplify this significant but elusive skill of responding. Toward that end, instructors should carefully consider Christensen's (1992) "decision tree" with two branches for discussion teaching: "either continue the teacher-to-student discourse or shift to a student-to-student mode" (p. 167). If the discussion teacher chooses to continue the teacher-to-student discourse, then there are three options: explore, extend, or challenge. Conversely, a teacher can opt to let go of the discussion and encourage student-to-student interaction by restating the question, raising a related question, or directly inviting two students to share their contrasting points of view.

When leading discussions, you should avoid answering your own questions. If you have formulated a well-designed question, be patient, and give students adequate time to process and consider how they will respond. Both teachers and students need to appreciate and utilize periods of silence. By utilizing methods such as those outlined above in Principle #2, students should be prepared and ready to engage in responding to questions that they have had adequate time to consider.

When facilitating discussions, a teacher must also learn how to respond to and manage those students who are dominant talkers, and several strategies can be employed. For example, Howard (2015) suggests slowing down the dominant talkers by limiting those who can respond by using verbal cues such as: "Those sitting in the front of the room have had a lot to say. What about those of you sitting in the back half of the room?" Or, "We've had some really great input so far, but I want to hear from someone who hasn't spoken up yet" (p. 69).

Conclusion

Those instructors who utilize DBL may encounter various challenges, including engaging students in discussion, encouraging high-order levels of thinking (e.g., analysis, evaluation, and creation), and managing dominant talkers. To overcome those challenges, DBL teachers must be willing to invest time and effort in creating safe, inclusive learning environments that will promote and encourage student engagement and a sense of belonging. This can be accomplished by learning students' names and interests and connecting students through using icebreaker activities. Also, instructors should prepare students for DBL, and students must also recognize their responsibility to prepare for quality discussions. Sharing the list of discussion questions before class and utilizing response papers or informal writing will allow students time to process their ideas and formulate responses that can be shared in class discussions. Finally, both teachers and students need to practice and develop the essential skills needed for effective discussions, including questioning, listening, and responding.

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Appendix

Questions for Higher Order Thinking Based on Revised Bloom's Taxonomy

Level 1: Remembering

- How would you define _____?
- List the _____ in order.
- Who were _____?

Level 2: Understanding

- How would you differentiate between _____ and _____?
- What is the main idea of _____?
- Why did ____?

Level 3: Applying

- Why does _____ work?
- How would you change _____?
- How would you develop a set of instructions about _____?

Level 4: Analyzing

- How does this element contribute to the whole?
- What is the significance of this section?
- How would _____ see this?

Level 5: Evaluating

- What is your opinion about _____? What evidence supports your opinion?
- How would you improve this?
- Can you propose an alternative _____?
- Which argument or approach is stronger?

Level 6: Creating

- How can you create a model and use it to teach this information to others?
- What experiment can you make to demonstrate or test this information?
- How can this information be told in the form of a story or poem?

Source: Based on Revised Bloom's Taxonomy and adapted from "Higher Order Thinking: Bloom's Taxonomy," The Learning Center, University of North Carolina at Chapel Hill, https://learningcenter.unc.edu/tips-and-tools/higher-order-thinking/.