

Toward a Web-Enhanced Model of Interaction in Freshman General Education History Courses

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Abstract

While American students increasingly choose to study online, most professors remain skeptical of its quality. This paper explores the perspectives of history professors at a liberal arts institution regarding their general education classes taught face-to-face (F2F) and online, focusing on interactive communication with students between the two delivery methods. While faculty expectations varied between the methods, social interaction was a greater factor in F2F classes, and content interaction occurred more consistently and in more depth online. The study indicates that a web-enhanced approach to instruction may provide the strengths of both methods for large lecture classes taught F2F.

Keywords: web-enhanced, case study, interactive communication, engagement

Introduction

Since 2009, online learning has expanded rapidly on the American higher education scene. Though terms are sometimes used interchangeably, web enhanced courses have between 1 and 29 percent of the coursework online to facilitate or enhance a F2F course, blended courses have between 30 and 79 percent of coursework online, and an online course has 80 percent or more of the coursework online (Allen, Seaman, & Garrett, 2007). While the body of literature comparing face-to-face (F2F) and online courses grows, there remains a general disconnect between comparative perceptions and

comparative research. Fifty-three percent of American faculty members believe that online education is not able to produce learning outcomes equivalent to F2F (Straumsheim, Jaschik, & Lederman, 2015). Allen et al. (2012) surveyed American professors, finding that 58 percent of faculty are pessimistic about online learning and 66 percent believe that learning outcomes are inferior in online courses. Within those results, they also found a correlation to teaching experiences and opinions, with younger faculty being more positive about online education than older faculty and professors who have not taught online expressing significantly less excitement about online education than those who have taught both F2F and online.

In a meta-analysis of their previous research, Allen and Seaman (2013) noted that between 2002 and 2012 the number of American students in an online course increased from 570,000 to 6.7 million, while faculty acceptance of online learning has steadily decreased over the same period. There is an evident disconnect between student and faculty perceptions of online compared to F2F learning. In contrast to those opinions of the professoriate at-large, Nguyen's (2015) meta-analysis revealed that 92 percent of studies comparing the quality of F2F with online learning found that online learning produced equivalent or superior learning outcomes, and the meta-analysis of more than 1000 studies conducted by Means, Toyama, Murphy, Bakia, and Jones (2010) indicated that the attainment of learning outcomes by students was modestly better in online courses than F2F.

In order to help bridge the gap between faculty perceptions and the research literature, the body of research must be brought nearer to the professoriate. This study is designed to aid in uncovering the root issues for negative perceptions and help mediate a remedy. One means of accomplishing this is to connect skeptics with those professors who are successfully engaging in both F2F and online teaching. Since faculty who have taught online in addition to F2F hold significantly differently (more positive) perceptions of online learning than their peers who have not taught online (Allen et al., 2012), communication between those who have and have not taught online may add clarity to the situation for those without firsthand experience.

Importance of Interactive Communication for Learning

There is a significant connection between interactive communication and engagement to learning. Two of the five key benchmarks for effective educational practices identified by the Center for Community College Student Engagement (2015) are active/collaborative learning and student-faculty interaction. The active and collaborative learning benchmark is the most consistent predictor of student success, specifically regarding persistence and course completion, while student-faculty interaction also has a positive correlation to persistence and course completion (McClenney et al., 2006). Students in courses with high levels of participation, including various forms of communication with faculty members and other students, demonstrate increased affective engagement and learning gains (AlKandari, 2012). Increased interactive communication also produces gains in student success and satisfaction while also reducing attrition (Abu et al., 2012).

Interactive Communication in F2F Courses

Interactive communication in F2F courses varies widely by the level of the students, subject area, professorial preferences, and campus climate. General education F2F classes numbering in the hundreds of students are increasingly common at universities, though those sizes contrast sharply with upper-level or graduate classes. Allais (2014) described the excitement and emotional energy that emerges from F2F interaction and organically within groups; however, this synergy is undermined when the group size is too large. In F2F courses, class size is an important factor for the presence and effectiveness of interactive communication (Allais, 2014; Cuseo, 2007; Estep, Shelnett, & Roberts, 2014). With each added individual, the available time to participate is diluted, and the attention of faculty members to each is proportionally reduced. Large class size has been found to have a significant, inverse relationship to student interaction with professors about course content (Beattie & Thiele, 2016).

Within a classroom, the students and faculty develop a sense of community through shared immediacy behaviors. Kay, Summers, and Svinicki (2011) investigated the phenomenon of community formation in classrooms, noting that, both among the students and assigned faculty, community develops when the group undergoes a common experience with shared social and cognitive processes. Immediacy behaviors, then, are those actions taken by faculty to increase the psychological and/or physical closeness with their students. Estep et al. (2014) examined student and faculty perceptions of immediacy behaviors, finding that students noticed professors engaging in group immediacy behaviors at a much higher rate than with individual students. Further, large classrooms made it more difficult for effective immediacy behaviors and engagement with students.

Establishing connectedness and feedback loops are examples of effective immediacy behaviors (Bright, Turesky, & Putzel, 2012). Increasingly, there is emphasis toward using F2F class time for active, collaborative, cooperative, and problem-based learning (Prince, 2004). These learning strategies not only impart information to students, but they also require students to engage in learning as part of a group. When utilized appropriately, such strategies are effective immediacy behaviors, as both faculty and students work together to construct knowledge. The construction of classroom community, professorial use of immediacy behaviors, and active learning strategies all play significant roles in the development of a F2F environment with a high degree of interactive communication. As students build relationships in the classroom, effective feedback develops the sharing of positive and negative feedback to hone the understanding of course material.

Interactive Communication in Online Courses

Despite the inherent physical separation, interactive communication between students and faculty is a primary factor in determining student satisfaction and persistence in online courses (Croxtan, 2014). One study of students enrolled in online courses found two of the four predictors of student satisfaction related to feedback received from the professor on work

products (Walker & Kelly, 2007). As faculty are able to view the thought-out and written work of all students through discussion forums and assignments, they are able to provide refining and provocative feedback to students. Interaction with faculty about content has been found to increase student-perceived learning and satisfaction (Kang & Im, 2013).

Effective online course design promotes the faculty behaviors of modeled interaction, communicating content clearly, and asking effective questions to elicit desired responses (Thormann, & Fidalgo, 2014). One study has indicated that online faculty spend approximately 24 percent of their instructional time with one-on-one communication and 15 percent facilitating discussion threads (Mandernach, Hudson, & Wise, 2013). It is important that faculty teaching online courses be intentional in their course activities to maximize effective interaction around the content. Paul and Cochran (2013) proposed a threefold approach to avoiding communication barriers in an online course: thorough and effective course design, maximal interaction and feedback, and clear communication of expectations. Anderson (2003) posed an interaction equivalency theorem that asserts students replace traditional forms of interaction with new ones in their online courses. Though interaction in an online course is vastly different than that in a F2F course, non-equivalency does not necessitate a superior-inferior relationship.

Teaching History Online

In reflecting specifically on the teaching of history online, McCormack (2015) described the unique advantages of this delivery method as the promotion of active reading and critical thinking, which are especially important to historical research. Lawes (2015) even claimed the superiority of online learning for that subject area, but only to the extent that it is designed to be interactive with active engagement from the faculty member. Both authors noted a significant factor contributing to the success of online education in the history field is that all students are required to engage with the material each week and articulate that engagement in a public forum. The feedback from other students allows for a level of refinement, while faculty members can hone understanding and encourage students to dig deeper. History may be an ideal subject area for online coursework (Lawes, 2015; McCormack, 2015), as the focus is on knowledge rather than the skills—some potentially dangerous—that might be found in other disciplines like nursing or science. It is a subject solely focused on knowledge, understanding, and analysis of archival data.

Comparative Analyses of F2F and Online Courses

In comparing the effectiveness of online learning to F2F, research indicates that online learning is equally or more effective than F2F in student learning outcome attainment. One meta-analysis found that 92 percent of comparative studies described online learning as equivalent or superior to F2F (Nguyen, 2015). Another reviewed over 1000 empirical studies, concluding that students in online classes tend to achieve learning outcomes

at a moderately higher rate than those in F2F classes (Means et al., 2010). While many studies have examined a comparison between online and F2F courses, a major limiting factor in the comparative analysis is selection bias by the participant students.

Student perceptions of equivalence between online and F2F delivery methods are an important consideration. One study found that students perceived equivalent rigor between the two delivery methods with more flexibility in online and more interaction with faculty in F2F; additionally, a correlation was found between increasing perceptions of equivalence and the number of online courses taken (Platt, Raile, & Yu, 2014). Student perceptions of student-faculty interaction have been rated as highly important for student satisfaction in both online and F2F delivery methods (Johnson, Cascio, & Massiah, 2014). Graduate students rated satisfaction slightly higher in the F2F setting, but there was no significant difference in the attainment of learning outcomes (Johnson, Aragon, Shaik, and Palma-Rivas, 2000). Another study found that higher-performing students are more successful in online courses, while struggling students tend to perform better F2F (Cavanaugh & Jacquemin, 2015). In summation, students perceive generally equivalent rigor and success, though prior success in higher education and previous online classes increases positive perceptions.

Some research has indicated that there is no significant difference between engagement in online and F2F courses, but there is a greater degree of higher-level learning in online courses (Li, Qi, Wang, & Wang, 2014). In fact, students were found more willing to engage in questioning and interaction when physically separated from the faculty member, as it allowed for a prepared presentation given with confidence (Li et al., 2014). Online learning platforms provide a forum for students to participate without the same time restriction as a F2F class, and threaded discussions there allow the faculty member to view and potentially interact with each posting.

Method

The purpose of this study is to help bridge the gap between faculty perspectives and research findings on the effectiveness of online learning compared to F2F. No study can be truly comprehensive of all permutations, so the specific topic of student-faculty communication was chosen for analysis in this study, as it is one of the most contentious. This study then is a step in understanding, from a faculty perspective, the perceived strengths and weaknesses of each delivery method for facilitating interactive communication. I sought to answer the following research question: *What are the perspectives of history professors at a liberal arts institution regarding their interactive communication with students in F2F and online sections of required classes in the general studies core?*

Through the data gathering and analysis processes, I looked for the best path forward on the practical matter of college teaching in circumstances studied. Rather than the common dichotomy of F2F and online, the

participants directly suggested a web-enhanced or blended pedagogy, and I found agreement with that position.

History professors were selected as the participants of the study because they often teach large F2F classes to meet general studies requirements and their content is generally knowledge-based rather than skills-based. History is also a subject area that is conducive to delivery through either method (Lawes, 2015; McCormack, 2015). The classes in question at this institution—freshman- and sophomore-level classes on world and American history—tend to be taught in large lecture settings ($n > 50$) while F2F or in smaller sections online ($n > 15$). Liberal arts institutions, specifically including the one in this study, are often collegial institutions, placing great emphasis on teaching and student interaction (Birnbaum, 1988). This setting was ideal for studying teaching and student-faculty communication patterns. Though the focus on faculty perceptions of their interaction with student is not intended to serve as a full proxy for quality measurement or learning outcomes, interaction between students and faculty is a very important component of effective teaching and learning.

The study took place at a small liberal arts college in the Midwest that also contains a limited distance learning operation. The institution does not have a full history major; however, the history department supports general education through service courses and provides a significant amount of coursework to humanities majors. The participants in this study were the two faculty members in the history department, both of whom are associate professors. For the purposes of reporting this study, their real names have been replaced with the pseudonyms Taylor and Sam. Taylor had taught part-time for five years online overlapping with two years full-time F2F, and Sam had taught part-time for seven years online that overlapped with 12 years teaching full-time F2F.

The case study was bounded to last for one academic year (2015-2016). Following the recommendation of Yin (2014), this case study gathered and analyzed multiple sources of evidence. I reviewed the syllabi as artifacts for each of the online and F2F classes in question that were taught by the participants during the fall and spring semesters. Throughout both semesters, I observed their F2F and online classes involved in the study. At the mid-point of each semester, I conducted semi-structured, individual interviews. At the end of the fall semester, I conducted a focus-group session with both participants together. This promoted organic, instinctive responses, while also allowing the two participants to interact and develop a coherent narrative of their common experience. The data was then stored securely. In order to increase the trustworthiness and reliability of the findings in the study, I triangulated data sources, analyzed rival explanations, and performed member checking.

Results

Through this study, I found that: 1) faculty expectations for engagement and interaction differ between delivery methods, 2) F2F classes offer greater

behavioral engagement through social interaction, and 3) online classes offer greater behavioral engagement through course content interaction.

Faculty Expectations for Engagement and Interaction differ between Delivery Methods

Both Sam and Taylor strongly expressed that their expectations for interactions with students varied between F2F and online courses. All of the F2F and online classes for both professors included a course goal that, "Upon completion of the course, students will have improved ability to express, explain, and support their viewpoints." However, it was addressed quite differently between the two delivery methods.

In one interview, Taylor noted that, "No grade or formal assessment is made in F2F; however, informal assessment is taken when I break the F2F class up into groups. This informal assessment helps me identify the rigor of the next discussion to give the class." Similarly, Sam did not ascribe a specific grade to in-class participation or engagement, rather noting that it is "a general expectation." A review of the syllabi for the F2F classes of both professors revealed that verbiage was frequently present which encouraged students to participate, but it was never systematically observed or graded. During a focus group meeting, Sam expressed concern that, for large lecture classes, even if "you have this group of 10 engaged well, you're leaving out the other 50, and that doesn't necessarily work very well." Since participation is observed informally and then not graded in these large lecture classes, professors have no way to know which students are engaged or not. Reflecting on Sam's concern, there may be 10 students who are engrossed in a class discussion or thinking about the material, but the entire rest of the class may be mentally disengaged.

The F2F expectations were very different than those in corresponding online classes. Each of the online classes required student participation in a discussion board. In a syllabus supplement for US History 2, Sam noted the purpose of the discussion board as "an avenue of engagement with the course material." The learning management system used by the institution provides an effective means to measuring the number, frequency, and length of each student's participation in online classes, allowing easy identification of those who are not engaged at all. The content of the discussion board work was described in one of Taylor's syllabi as, "the application of history and original thoughts concerning historical topics," thus encouraging depth to the discussions rather than a recitation of material. Both professors provided an extensive supplementary guide to students on how to participate in discussion boards and rubrics for grading that participation. For example, Taylor's rubric for each discussion board post graded based on participation (25 percent), critical thinking (35 percent), response and synthesis (35 percent), and original research and thought (5 percent), while providing clear instructions on how these categories would be assessed. In a focus group meeting, both professors reflected on how the discussion board allows them to provide customized feedback to each student in a simple manner and an avenue then for the student to initiate a back-and-forth dialogue.

The discussion board then affords the professor the opportunity to see each student's understanding and then interact with the student in a feedback loop.

F2F Classes Offer Greater Behavioral Engagement through Social Interaction

The primary advantage for large, lecture F2F classes noted by the professors was that of social interaction. Though certainly the interaction is mitigated by class size, the F2F venue provides a direct link between the individuals and often results in a personal connection. Taylor summed this sentiment up by saying that she was more satisfied teaching F2F classes, because "face to face communication can never be replaced because it provides voice inflection, body language and physical proximity." Taylor also described how the lack of this social, human connection was the most negative aspect of teaching online.

With online - that's the thing I really regret about online - there's not that ability to reach out even though I try emails; and when they respond to me, I'm really quick on responding on those personal things that they're sharing with me, and I'll do a follow up - "hey you mentioned this, how is it going?" But there is its just words and it's not in person, and that's really hard.

Since the professors expressed significant value in getting to know their students, they perceived that teaching students in a F2F setting is preferable. It is part of the human nature to seek contact with other people, and F2F education provides that, while online does not.

Unique to the F2F environment, Sam described how he is "able to see them outside of class and chat informally." He perceived that these out of class connections built a sense of community and respect with students that helped create an effective classroom environment.

Taylor suggested that social interaction opened the door for in-class discussions that involved sharing "how personal experiences relate to a historical principle/dilemma." Diversity in the academy is highly valued; however, if students do not express themselves, that value is severely limited. Both professors believed this relationship that derives from social dialogue promotes a lasting memory of the content and connections to real life.

Online Classes Offer Greater Behavioral Engagement through Course Content Interaction

Both professors indicated that they perceived far greater interaction and student engagement related to the course content in their online sections compared to the large F2F sections, also noting that such student communications displayed greater depth.

Universal participation was one of the most significantly positive factors associated with online learning. Sam noted that, in his online classes, "Everyone... has to write all the time. Now obviously the writing quality varies but at least I'm hearing from them. Even that kid who, if I had him or her in class, I wouldn't hear at all." Being able to see the work of every student allows the professor to check for understanding and engage each

student personally. For students who, for any number of reasons, would not speak up during class, online classes allow their voices to be heard in the discussion. Taylor suggested that this may be due to “the online student's ability to write out their responses, taking as much time as was needed. [F2F] students have to speak off the cuff with only a limited amount of time to consider responses.” The limitation of being asynchronous that affects social interaction then provides a benefit to content interaction, providing time for research and depth of thought to be expressed well.

Another significant factor was the ability to provide personalized feedback to each student, potentially resulting in a dialogue. Taylor, in a focus group meeting, noted that,

I can respond in the forum and then I always give personal feedback when I'm grading and I'll point out something specific, or I'll say “here's where that was weak, could you considered this,” or “when you responded to so and so this way that was strong, or you could have asked this kind of a question that would have expanded the conversation further.” So I'm trying to interact with them on that level as well. Classroom is harder because you break them up into groups and you're not part of that. You don't know what they're saying individually and you kind of get a mismatch of a general overview when you ask the group to give their final conclusion. So in the classroom that kind of interaction is much more limited. It's reduced primarily to comments on an essay test or comments on a paper, and that's far different than if it's more formal.

In the large lecture F2F class, such personalized feedback is not possible, as most students are unable to participate within the time confines of the class period, and many would not even if time were not a constraint. Online learning in a discussion board thread allows a dialogue between the professor and each individual student while also maintaining a group discussion.

Beyond just the volume of participation, the professors noted that the quality of content participation increased in online classes. Taylor described it this way:

I would say that the online forums provide a better opportunity to see engagement with the content. The forums are designed to produce meaty responses and students usually obtain that high bar. Online students have the ability to research and write intelligent commentaries on the content. In the campus class discussion, I notice that student responses are more superficial and that students respond in clichés or formulaic patterns. The online discussion has reduced those kind of responses.

Such depth is seen as a particularly important aspect of the education at this small liberal arts college. The professors perceived that the time to research and write responses facilitated learning and personal growth in students more than extemporaneous replies.

The benefits of online learning were not universal, however. Taylor noted that, in her online courses,

Most students do not ask me questions, however, I do get to respond to forum posts either directly in the forum or afterwards in my feedback. But this is weak, as students rarely respond to instructor interaction in the forum.

So, while the initial engagement of students is greater to allow for faculty interaction with each individual, many students end their interaction there. The benefits of universal participation, personalized feedback, and depth are then terminated with the cessation of dialogue. This may arise from a student emphasis on participating only as a means to earn points for their grade. Since dialogue past initial postings and replies will vary for each individual, it is difficult to make a requirement and then grade.

Discussion

There is a human dynamic to relationships and community that has not been fully replicated or replaced when the parties are physically separated, as in an online class. The role of a community in the classroom is important. Almost all professors have an interest in getting to know their students, even on a deeper level than names and casual acquaintance, and this is commonly facilitated through a certain classroom atmosphere (Kay et al., 2011). Professors often perceive a great deal of immediacy behaviors in interacting with students F2F (Estep et al., 2014). While students in a lecture-based class—especially those in the large lecture halls associated with many freshman general studies courses—generally engage with the content during class time only as recipients from the professor, research has indicated that online instruction may promote higher-level learning better than F2F instruction due to a more consistently learner-centered design, which allows for greater questioning and cooperation (Li et al., 2014). Engagement with content-based questions and diverse perspectives has been highlighted as a chief benefit of online learning (Thormann & Fidalgo, 2014).

In this case study, the communication between faculty and students was not comprehensively better or worse between the two delivery methods; rather, they had different strengths and weaknesses. When I asked both professors directly about what their ideal learning environment would be in terms of facilitating interactive communication for these general studies history classes, both strongly indicated that web-enhanced or blended learning was their desire, though limited by time available to develop and manage that change. The conclusions of the faculty members indicate a desire to incorporate online components into their F2F courses in order to ensure greater and more consistent content engagement by the students, importing the best element of their online courses into their F2F courses.

Twigg (2003) described this method of course redesign as a Supplemental Model, which includes online activities outside of class time to engage with the content. Researchers for the Massachusetts Institute of Technology's Online Education Policy Initiative suggest blended learning as the best course delivery solution, effectively capitalizing on the strengths of both F2F and online (Wilcox, Sarma, & Lippel, 2016). One experiment found improved efficiency when integrated well-designed online elements with a F2F class, as students in the blended course were able to achieve the same learning outcomes as students in the purely F2F classes while spending only three-quarters as much time (Bowen, Chingos, Lack, & Nygren, 2012).

I considered the rival explanations of whether the results were simply produced by student selection bias, and whether other variables, such as class size (Allais, 2014; Cuseo, 2007; Estep et al., 2014; Taft, Perkowski, & Martin, 2011), played a greater role than delivery method. The faculty members in this study were not chosen at random from the pool of all faculty at the research site. One of their selection criteria was that they had extensive experience teaching online, as well as F2F. Thus, it was anticipated that these faculty would have a more positive perception toward online learning than the average faculty member, because they had chosen to participate in it for so long. This challenge is less of a rival explanation and more a reality inherent to the subjects chosen. The most significant rival explanation is that of class size. The F2F class sections ($n > 50$) had significantly more students than the online classes ($n > 15$). One could conclude then that professors would have more individualized communication in F2F classes if their sections were the same size as the online classes, but that simply is no longer a reality in the freshman general education classes for many colleges. I acknowledge that rival explanation as valid but non-competing with my own. The benefits of online classes are in required participation that is documented, easily viewed and interacted with by the professor, and asynchronous for students to create well thought out responses rather than those given in the moment of class discussion. Since online classes are not bound by scheduled meeting times or the capacity of physical spaces, there are time and space available for more, or even all, students to participate, unlike a large lecture class. In the F2F classes I observed, there would have been one minute or less available for each student to participate with 50 or more students in each 50 minute class meeting, and that is presuming there were no other activities during the class meetings. Reading and dialoguing with students in online classes does, however, take time, creating an upper-limit of effectiveness per faculty member. Since the participation, review, and interaction in online discussion forums are asynchronous, faculty have the ability to see how each student is engaging with the content and provide refining feedback (Croxtton, 2014; Kang & Im, 2013; Walker & Kelly, 2007).

It is, in fact, this rival explanation that pushed me toward the conclusion of using web-enhanced learning to reap the social benefits of F2F as well as the content benefits of online learning.

Further research will be needed to draw more generalizable conclusions. Specific directions for further research would include directly evaluating the web-enhanced model with the F2F setting under the same conditions of this study, repeating the study but with equivalent class sizes, selecting participants from a different academic field and/or type of institution, repeating the study with a different dependent variable than interactive communication, and approaching the same topic from the student perspective with those who had taken one of their required general studies history courses F2F and one online.

This study exposed the strengths and weaknesses of F2F and online education in the context of general education history courses. Faculty members who teach such courses to large classes in the F2F setting, however, have the ability to capitalize on the strengths of both delivery methods through a web-enhance or blended pedagogy. ■

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