

Online Education: Faculty Perceptions and Recommendations

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Abstract

In this article, the literature on faculty perceptions of online education is reviewed. First, a summary of preconceived notions commonly held on this topic is provided, followed by the data to support or reject these notions. Finally, suggestions are made to improve faculty experiences teaching online that are based on the literature review and the lead author's experiences teaching in this venue.

Keywords: online education, faculty perceptions, student learning outcomes, preparation time, student persistence, faculty satisfaction, improvement of online teaching

While online education has expanded exponentially, controversy about its efficacy remains. Skeptics claim that online courses deliver a decrease in student learning outcomes; that the time required to teach them is far greater than face-to-face classes; that student persistence or success is decreased in online environments; and that faculty are not as satisfied with the online teaching experience as with the face-to-face teaching experience. Several databases were searched for primary literature that addressed these perceptions to create a summary of these concerns. With growing interest by universities to meet the demand by students for online course options, many new faculty members may find themselves teaching in an online environment. The following sections will be included: A review of the literature related to faculty perceptions about online education (i.e., data to support or reject those perceptions); suggestions for improving the online teaching experience; and overall conclusions.

Review of Literature

Nature and Prevalence of Online Education

There are a variety of models and terms used to describe or define online and distance

courses. Web facilitated courses are ones where 1-29% of the content is delivered online, and oftentimes a course management system is used to post the syllabus and assignments (Bejerano, 2008). Blended or hybrid courses are those where 30-79% of the material is delivered online, and there are typically a reduced number of face-to-face meetings. Communication is usually facilitated on a discussion board or similar software (Rovai & Jordan, 2004). Online courses are those wherein 80% or more of the content is delivered online, and there are typically no face-to-face meetings (Allen & Seaman, 2013). The review that follows will be limited to courses in this last category, where 80% or more of content is delivered online. These courses are also occasionally referred to as distance courses (Ulmer, Watson, & Derby, 2007). Massive Open Online Courses (MOOC's), which generally offer unlimited participation and open enrollment to thousands of students fall into this category as well (Daniel, 2012), will not be addressed specifically or separately here.

In 2013, enrollment in online college classes hit an all-time high with approximately 6.7 million students in the US enrolled in at least one online class. This statistic represents approximately 32% of all students enrolled in higher education (Allen & Seaman, 2013). Since 2002, there has been a steady increase in the proportion of higher education institutions who report that online education is critical to their long term strategic success, with more than 70% of leaders surveyed at academic institutions now making this claim (Allen & Seaman, 2013). However, reported faculty support of online education presents a mixed picture. Some reports claim that faculty support is at its lowest level since 2004, with only 30.2 % of chief academic officers reporting that the faculty members at their institutions are accepting of the legitimacy and value of online education (Allen & Seaman, 2013). Other work claims that faculty support is as high as 75% for online education (Bolliger & Wasilik, 2009).

Student Learning from Online Education

The perception of student learning in a traditional setting compared to online learning is very mixed. Currently, 77% of academic leaders perceive online learning to be as effective as or better than face-to-face traditional instruction, while 23% view online learning as inferior to face-to-face instruction (Allen & Seaman, 2013). However, these feelings vary greatly among academic leaders at institutes who offer online courses, and those who do not. In general, educators at institutions who offer online courses are far more likely to view online learning positively than at institutes that do not offer online learning (Allen & Seaman, 2013).

The data that examines learning outcomes in face-to-face settings, compared to online courses, can essentially be divided into three outcome categories. The first and largest group shows an increase in learning outcome by online learners. The second, and still significant portion of papers examined, is a "no significant difference" group. The final, and smallest group, is one where online learning outcomes are decreased for online learners compared to face-to-face learners (Olson & Wisner, 2002).

Sorting details from the mixed picture about data and perceptions of online student learning is further complicated by a range of variables, including the number of students enrolled in a study, length of the course being examined, and subject matter addressed, e.g., medicine or healthcare, computer science, teacher education, social science, mathematics, languages, science, and business (Means, Toyama, Murphy, Bakia, & Jones, 2010). Method of content delivery further complicates the picture, because delivery methods range from synchronous to asynchronous and may be a blend of both, depending on the course being examined. The

analysis can be further complicated when studies examine different courses taught by different instructors.

The majority of individual studies currently point to increased student learning, or no significant difference in student learning online versus face-to-face. One such work examined student learning in the area of environmental science across a one year time period. The work demonstrated that students in the face-to-face group improved their learning by slightly less than one-half a standard deviation, while students in the comparison online version improved their learning by slightly more than one-half a standard deviation, with p-values of 0.05 (Fishman et al., 2013). The researchers concluded that in both cases students increased their learning, but that the differences, while slightly favoring the online group, were not significant (Fishman et al., 2013).

A 2006 meta-analysis comparing web-based instruction to traditional classroom instruction showed a 6% improvement in web-based learning compared to traditional classroom instruction, when examining the development of declarative knowledge, and equally effective in developing procedural knowledge (Sitzmann, Kraiger, Stewart, & Wisher, 2006). Learners were equally satisfied with the web-based instruction and the classroom instruction (Sitzmann et al., 2006).

Findings such as those just described support the contention that online courses produce stronger student learning outcomes than do traditional face-to-face courses (Allen & Seaman, 2013). Means et al. (2010), reported a mean effect size of purely online instruction compared with face-to-face instruction showed an increase in student learning of 0.05 standard deviations for online students compared to traditional face-to-face students, with a $p = 0.001$. Data for blended courses pooled with online courses revealed an even stronger increase in student learning online, with an increase of 0.2 standard deviations and $p < 0.001$. When blended instruction was used to augment or enhance face-to-face instruction, the result was a 0.35 standard deviation increase in student learning, with $p < 0.0001$ (Means et al., 2010). Overall, student learning is generally shown to increase online compared to face-to-face courses (Hart, 2012).

Studies can also be found that point to lower student learning in online courses compared to traditional face-to-face settings; however, there are fewer of these studies, and many of them found in the primary literature are older. For example, a 2007 study randomized students into a face-to-face and an online version of an early childhood education course taught by the same instructor (Mentzer, Cryan, & Teclehaimanot, 2007). Students in the online class performed equally well on exams as their face-to-face counterparts, yet experienced lower overall learning (based on their final grades, and decreased satisfaction compared to the face-to-face students). The decreased overall performance by the online students was attributed to an increased likelihood of missing assignments, because there was no statistical difference between the exam scores of either group (Mentzer et al., 2007). Many of the studies examined focused on student perceptions of an online course, while the focus of this literature review was on instructor perceptions. Nonetheless, student satisfaction was a strong predictor of student success (Mentzer et al., 2007).

Instructor Time Related to Online Instruction

By the early 2000's, distance and online courses began increasing in popularity (Cavanaugh, 2005). This increase in popularity resulted in a demand for online and distance education courses that prompted universities nationwide to develop and implement an increased number of these types of courses. The hope at the time from the majority of both administrators and instructors was that advances in technology would allow both students and instructors to be more efficient with their time; this increased efficiency was predicted to increase enrollment and learning outcomes for students, leading to increased freedom for students and instructors (Cavanaugh, 2005).

As these courses increased in popularity, so did the work examining how instructor time was spent while teaching them. As early as 2000, surveys of online instructors indicated that 90% of those teaching both face-to-face and online courses felt that their online courses took more time to teach than did their face-to-face courses (Hartman, Dziuban, & Moskal, 2000).

One of the first studies to directly compare time allocation spent between a comparable online and traditional course taught by the same instructor used time logs to examine how much time was being spent in each course (Cavanaugh, 2005). Categories included time allocated for preparation, teaching, office hours, and final tasks. The instructor had taught the course, an introduction to economics, ten times on campus and three times online prior to the study. The courses were kept as similar as possible by using the same textbook, covering the same material, and having similar assignments. Both classes were limited to 40 students, yet there were some differences in the grades assigned, including number of quizzes or papers written.

The results showed that significantly more time was spent on all areas of the online class compared to the face-to-face course, with 155 total hours spent toward the online course compared to 62 total hours spent toward the face-to-face course (Cavanaugh, 2005). This translated to 6.77 hours per student online compared to 0.71 hours per student on campus. Significantly more time was spent in the area of preparing for the online course, largely due to updating the wording and content of the material, uploading this material, contacting students to get them started, and editing material in the course management software (WebCT). Significantly more time was spent teaching related to individually communicating with students, scheduled meeting times, one-on-one emails, phone conversations, discussion groups, and chat rooms. Time spent communicating had previously been demonstrated to be one of the most time consuming factors of teaching online (Lazarus, 2003). Nonetheless, limiting these interactions has been found to reduce the quality of the course (Offir, Barth, Lev, & Shteinbok, 2003; Savenye, Olina, & Niemczyk, 2001).

Cavanaugh's (2005) study revealed that responding to individual student emails was the most time consuming activity, followed by making phone calls. Technology issues were also a significant contributor to the time spent teaching online. The number of office hours offered to each class was the same, yet the increased number of phone calls and emails led to greater time being allocated to the online course. Often times office hours ran over the allotted time due to addressing student questions. Time spent on final tasks was also greater for the online class because of miscellaneous administrative tasks that the on campus course did not require (e.g., downloading student evaluations, backing up or restoring items in WebCT, and responding to individual emails about registering for the next required course in a sequence of required classes).

The perceptions of administrators regarding the greater amount of time it takes to teach online continues to rise overall. In 2006, 41.4% of administrators believed that online teaching required more time than traditional settings. In 2013, 44.6%, held this view. Administrators' perceptions of time spent teaching online decreased at private for-profit institutes over the same period from 31.6% to 24.2% (Allen & Seaman, 2013). There is very little recent empirical work, however, to address the amount of time instructors actually spend in their online courses compared to their traditional courses.

Faculty Satisfaction Related to Online Teaching

There is a growing body of work demonstrating that overall, faculty members generally enjoy teaching online, and this satisfaction is an important indicator of the quality of the course. Faculty satisfaction can be defined as the perception that teaching online is effective and professionally beneficial. Factors contributing to faculty satisfaction generally falls into three categories that include student-related, instructor-related, and institution-related factors (Bolliger & Wasilik, 2009).

One of the most common reasons faculty find online teaching satisfying is the access to a more diverse and non-traditional student population which the experience offers (Bolliger & Wasilik, 2009). Teaching online is often perceived as offering the opportunity to engage students in an interactive environment using alternative modes of communication. However, at the very same time, one of the greatest concerns faculty express about teaching online is the limited interactions they may have with students whom they often never meet face-to-face. Overall, faculty satisfaction increases as student performance increases. Hence, student satisfaction is the highest indicator of faculty satisfaction, indicating that online courses have a student-centered focus (Bolliger & Wasilik, 2009).

Instructor-related factors are the second most important indicators of faculty satisfaction when teaching online courses and are often intrinsic (Bolliger & Wasilik, 2009). Self-gratification is a frequently identified indicator of success. Satisfaction tends to increase as instructors perceive themselves as being able to positively influence student performance. Other instructor-related motivators include professional development and the intellectual challenge offered by conveying knowledge or skills in a non-traditional format. This often includes the use of technology, along with the opportunity for research and collaboration. Conversely, technological challenges or inadequate tools are often associated with decreased faculty satisfaction when teaching online because faculty are generally concerned with the quality of the course they offer (Bolliger & Wasilik, 2009).

The value placed on teaching by an institution is the third main indicator of faculty satisfaction when teaching online. If the institution values teaching, faculty satisfaction is generally significantly higher than if the institution does not place significant value on teaching (Bolliger & Wasilik, 2009). This often follows workload allocation by the institution because instructors perceive workload to be higher for online courses than face-to-face courses, and as previously discussed this perception is supported in the primary literature (Cavanaugh, 2005).

Faculty are more satisfied with the online teaching experience when they have appropriate support from their institution, but this was the least important indicator of faculty satisfaction. Release time provided by their institution, especially when developing a new course because of the increased time-intensive process related to online course development was

important. The two other major factors for faculty satisfaction when teaching online are: perceived appropriate compensation and reward toward tenure and promotion. Satisfaction also increases when policies are in place for protecting intellectual property regarding material developed for online teaching and when appropriate evaluation metrics are used. Faculty perceive that online evaluations are generally lower than face-to-face course evaluations despite the concern faculty have for the quality of their online courses and that these courses are more labor intensive than face-to-face courses (Bolliger & Wasilik, 2009).

Student Persistence or Success Related to Online Education

Despite the increased access, convenience, and flexibility of online courses, there has been a long-standing recognition that attrition of students in online settings is higher than in traditional face-to-face settings (Hart, 2012; Olson & Wisner, 2002). A variety of work has focused on the question of what makes students persist or succeed in online courses, and what contributes to student attrition when they do not persist or succeed. Factors associated with student persistence include satisfaction with the online learning experience, a sense of community, motivation, support from family and peers, time management, and increased communication with the instructor. According to Hart (2012), student satisfaction is the most important indicator of success in an online program. Since faculty members have the greatest direct influence on communication and schedule flexibility (which can strongly influence a student's sense of community and overall satisfaction), persistence in a course or program is tied directly to faculty teaching practices. Appropriate structure to a course has been demonstrated to help students overcome shortcomings in knowledge, and other hardships, thus increasing satisfaction as well as student persistence and success. Likewise, engagement by the instructor and frequent communication have also been shown to help increase student's self-efficacy and self-confidence, which have been identified as factors contributing to student success and decreased attrition (Müller, 2008).

Despite the work that has focused on student success and persistence, work in this area is complex, difficult to completely interpret, and requires significant further study. Factors that contribute to increased attrition online may have nothing to do with the instructor. There are certainly things instructors can do to help students succeed, and that includes clear and consistent communication, regular availability, and increased flexibility of schedules to foster a sense of community through communication and technology (Müller, 2008).

Suggestions for Improving the Online Teaching Experience

Skeptics claim that online courses deliver a decrease in student learning outcomes; that the time required to teach them is far greater than face-to-face classes; that student persistence or success is decreased in online environments; and that faculty are not as satisfied with the online teaching experience. Consistent with skeptic views, and based on six semesters of experience teaching an online introductory biology lecture and lab at a research institution in the upper mid-west, the lead author has found that persistence is decreased in online courses compared to the on campus versions of the same class consistent with what is in the primary literature (Hart, 2012). Many of the students enrolled in the online course are caregivers to family members, stationed

overseas, or in rural communities with decreased access to educational opportunities and increased demands on their time compared to traditional on campus students. While terminology regarding persistence or success varies in the primary literature, this group of students does have a lower completion rate compared to on campus students. Likewise, teaching an online lecture and lab does require an increase in time compared to a face-to-face course that covers comparable material to a comparable depth and breadth. The on campus class is capped at 180 students per semester, with five lab sections per week. The online class is capped at 35 students per semester in lecture and lab. The online class takes proportionately more time to develop, grade, and refine materials. The lack of comparison studies in recent work between the time required to teach in these venues represents a need to be addressed in future work.

The lead author finds no evidence in his own experience for decreased learning by students in the online course. Likewise, he has experienced a tremendous amount of satisfaction in providing an educational opportunity for students who would otherwise be limited or even excluded from such educational opportunities. The challenges of developing, refining, and adjusting material to meet the course goals and objectives in a nontraditional setting have been very rewarding. Many of the students enrolled in the online version of lecture and lab are nontraditional students who have actively made the decision to return to school, and seem to have an increased appreciation for the opportunities that an education provides. As such, many are genuinely grateful for the chance to earn a degree, and willing to work very hard to meet this personal goal. As a result, they often work harder, and are more willing to invest significant time and effort. However, they do sometimes require extra accommodations or flexibility to meet the goals and objectives of the course because of the other obligations in their life. Several suggestions for improving the online teaching experience follow.

- 1) Start with the end in mind and plan ahead.
- 2) Start early enough to allow sufficient time, especially when teaching online for the first time, or transitioning a historically face-to-face class to being offered online for the first time.
- 3) Start small, having a target in mind of how large you wish for the class to be (perhaps half to two-thirds of your target).
- 4) Develop a consistent schedule for yourself and your students.
- 5) Be flexible; if something is not working, change it.
- 6) Consider speaking with your department chair or other administrators about a release from other responsibilities.
- 7) Be available to your students through a variety of communication methods.
- 8) Remember that teaching online is not merely using the same material used in a face-to-face setting. While material from face-to-face settings may offer a sound starting point, if the learning outcomes develop the knowledge, skills and abilities you are trying to foster, the delivery used will likely be different.
- 9) Be certain to clearly define specific, measurable learning outcomes for your students prior to starting an activity or exercise, and share these with your students much as you would a study guide.
- 10) Especially the first time teaching online, allow time after each activity is completed and graded to go back and modify it, based on student feedback. If you find a strategy that was effective, do more of it. If you find points of consistent confusion in

student work, reword or restructure it in an attempt to clarify that point in future iterations.

Conclusions

Overall, faculty members who have experience with online teaching are more likely to have a positive view of online education. Those who do not have experience with online education are more likely to hold a negative view of online education. The main reason for this view is a concern over the quality of the course offered, and decreased learning outcomes in online courses compared to traditional face-to-face courses. Literature reviews, surveys, and individual studies demonstrate that overall student learning remains the same or increases in online courses compared to traditional settings. Instructors perceive that online teaching requires more time than conventional courses, and this perception is supported in the primary literature. Not only does development of online courses take longer, so also do the general teaching duties associated with online teaching. This increase is generally related to the individual communication required by online students. The heavier time commitment is in spite of the fact that online courses do have a higher attrition rate than traditional courses. The complexity of factors contributing to student success or persistence online requires far more work, and would be improved by consistent and standard terminology. However, the majority of studies examined seem to indicate that instructors who teach online are generally willing and able to increase their time commitment, creativity, and teaching methods and styles to make their online courses as effective or more effective than taught in traditional settings, and they find it rewarding.

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