

Where Does Learning Occur in Online Courses?

The Results of a Study of Graduate Student and Faculty Perceptions of Online Learning

Jackie L. Booth

Andrew M. Kirschner

[Keiser University]

**Abstract**

How do universities that offer online courses measure student learning? Do online students and instructors agree on how learning takes place? We surveyed 78 graduate students and 22 instructors in an online graduate school at a private university in South Florida. Results reveal deep-seeded beliefs about learning that heavily emphasize the importance of online activities such as discussion rooms and reading assignments, while raising questions about others such as group projects, tests, and field interviews. This article details the results of the findings, compares them to other studies, and makes recommendations for action.

## Where Does Learning Occur in Online Courses? The Results of a Study of Graduate Student and Faculty Perceptions of Online Learning

The purpose of this study was to discover how graduate students and instructors perceive learning in online courses. In both groups, the results indicated that discussion rooms provide the best opportunity for student learning. Prior research on this topic supports these findings and underscores the many roles discussion rooms play in ensuring a quality online experience for students enrolled in distance learning courses. The research also reveals some of the advantages of online discussion rooms over traditional face-to-face classroom discussions.

### **Related Research on Student and Faculty Perceptions of Online Learning**

The learning environments of most online platforms have similar elements, including reading assignments from texts, articles, reports, lecture notes, and websites as a basis for delivering course content. In addition, assignments and assessments promote and evaluate student learning. Most courses feature asynchronous discussions where students respond to prompts and follow-up questions with instructors serving as facilitators. Typically, discussion participation is graded, serving as both an assignment and an assessment.

The growing proliferation of online learning makes it a rich field for research. Many studies have compared students in online programs with those in traditional programs focusing on student grades and other measurable outcomes rather than on student perceptions of their learning (Howell, Laws, & Lindsay, 2004; Husson & Waterman, 2002; Kirtman, 2007; Perreault, Waldman, Alexander & Zhao, 2008; Wyatt

2005). However, in a study comparing 280 students in a similar course split between traditional classes and online classes, Dobbs, Waid, and del Carmen (2009) reported that 44% of adult students who had taken online courses said they learned the same as in traditional courses, and 29.6% said they learned more in online courses than in traditional courses. In their study, the more online courses students had taken, the more convinced they were that they learned more in online courses than in traditional courses.

Students with experience in online discussions routinely identify them as an effective way to learn, challenge existing beliefs, and verify information (Ellis, Goodyear, Prosser, & O'Hara, 2006). In a study of graduate students in education, Fernandez (2007) found that students longed for acceptance and validation in online discussion rooms, even lamenting occasions where classmates or instructors failed to respond to their posts. Students said they learned a lot from other students' posts and that the discussion board posts made them rethink their positions. Students also stated that discussion boards provided them more time to think about topics, reflect, and respond thoughtfully (Fernandez, 2007).

In an article on the importance of online teaching and learning components that enrich the learning process for students, Babacan (2009) differentiated between surface and deep learning. He asserted that surface learning, found predominantly in courses heavy in formal assessments, relies on facts, rote learning, and segmented learning. In contrast, deep learning focuses on the application of content to both prior knowledge and to future, real-world situations students will encounter. Deep learning activities typically involve students in the active cognitive skills of analysis and synthesis. When instructors provide constructive feedback, push students to think differently, and engage students in

constructing new knowledge or considering new ideas, deep learning is much more likely to occur. Babacan identified these instructor activities as ideal for facilitating discussion in online classes.

Another aspect related to student learning is self-control over learning. According to Hu and Gramling (2009), online courses put the student in control of the learning environment. They pointed out that one cognitive strategy, elaboration, a prevalent requirement in discussion rooms of online courses, allows learners an opportunity to fully describe what they know and provide examples of connections to their particular situations or other real-world applications. Using this strategy, students can control the application of their learning as they process and link new ideas and concepts to past knowledge and experiences.

Discussion in online courses usually constitutes a significant portion of students' final grade. Arend (2007) claimed that because they are graded on their participation and must write down their contributions, students put forth more effort than they would in face-to-face class discussions. The additional effort causes students to activate critical thinking skills as they strive to elicit the desired feedback and grade from their instructors. Bliss and Lawrence (2009) suggested the type of faculty interaction in discussion significantly impacts the degree of student learning. While debate exists among instructors and researchers about the appropriate role and frequency of faculty interaction in discussion, overwhelming evidence validates that students' perception of learning through discussion is related to the instructors' presence and facilitation skills (Bliss & Lawrence, 2009).

Student learning is not just a consequence of student–faculty interaction. According to Steinman (2007), “Students’ perceptions of online courses can be negative if they experience large transactional distance with the instructor and with other students” (p. 46). This conclusion underscores the importance of vigorous and frequent faculty-to-student and student-to-student exchanges in the discussion rooms. Discussion boards provide students the opportunity to interact socially, share knowledge, and participate in a community of learners (Bonk, Dennen, Malikowski, & Supplee, 2000). Connections with instructors and classmates contribute to socialization inside the online course in addition to learning.

Emphasizing the critical role of instructors and their influence in online discussion, Gerber, Scott, Clements and Sarama (2005) described two important instructor characteristics: stance and topic level. Stance is the perspective an instructor takes, whether supportive, inquisitive, challenging, or neutral while participating with students in discussion. Topic level is the design of the discussion questions to elicit student interaction and engagement. Gerber et al. reported that instructor stance was determined to be significantly more important to student learning than the topic level of discussion. The researchers concluded that even with a low cognitive-type question, creative and knowledgeable instructors could direct the discussion to promote deep learning.

On the surface, the qualities and competencies of online instructors vary little from the desired competencies of face-to-face instructors. However, Bawane and Spector (2009) conducted a meta-analysis of online instructor roles as identified by online instructors. Despite no evidence in their results that one set of roles was preferable to

another, certain roles of competent online instructors emerged, including expertise in assessing learners' achievement of learning objectives, adapting courses to maintain accuracy and relevance, and expertise in subject area. These competencies all relate to managing and promoting learning in the discussion areas of online courses.

Baglione and Nastanski's study (2007) focused on instructor perceptions of how best to manage discussion in online courses. Their survey of 122 faculty members indicated that 75% of instructors believed students benefit more from online discussions than conversations that occur in a physical classroom because the conversations are more substantial and participation is more evenly distributed. Sample comments by instructors about online discussions highlighted the benefits of continuing conversations throughout the week, addressing both individuals and the entire class, and allowing time for research and reflection that can enrich the discussion. Since discussions are written, faculty members have time to evaluate them thoroughly, ask questions, and provide feedback. Baglione and Nastanski concluded that online discussion may prepare students for a workforce that increasingly relies on e-mail and other forms of electronic communication.

A qualitative study of instructors' perceptions of best practices in online learning in higher education by Nkonge and Gueldenzoph (2006) confirmed the importance of quality assignments and regular communication. The study revealed that faculty believed curriculum should be engaging and relevant and should require students to solve problems. They stressed the importance of assigning work to improve writing skills, which occurs in discussion rooms during the writing of research papers. Regarding best practices, the instructors stated that discussion rooms allowed them to keep in touch with

students and learn from each other. The participation in the discussion rooms included all learners and increased overall participation in the learning process. Instructors also expressed support for virtual chats. Nkonge and Gueldenzoph's study also revealed instructors' perceptions of student barriers to online success, which included student procrastination and lack of motivation.

The importance of discussion in promoting online learning is supported by previous research comparing different methods of teaching courses as well as asking students and professors for their perceptions on its effectiveness as a learning tool. Our current study sought the perceptions of both instructors and students about the nature, importance, and quality of learning in online courses.

### **Description of the Study and Results**

#### **Students' Perspective**

A total of 78 graduate students in education, business, and criminal justice programs at a private university in South Florida responded to a 9-item survey on how they learn most effectively in online courses. The results were collected, summarized, analyzed, and compared to a similar survey presented to instructors at the same university.

The rating average discussed in this article consists of the average score of all rankings for a category. A low mean score indicates a favorable ranking. For example, students ranked activities from 1 (liked the most or learned from the most) to 10, so a lower mean score for all students means that more students ranked that activity favorably. A higher score means the activity received more scores in the 10 range and would be less desirable.

Of the 78 students, 25 (37%) selected course discussions as the activity that helps them learn the most and 15 (23%) selected readings. Readings and discussions also had the lowest mean ratings, 2.95 and 3.33 respectively, of 10 assignment choices that also included tests, phone calls with professors, library research, group projects, case studies, writing critical essays, interviews, and presentations. In other words, 60% of students surveyed believed discussions and readings help them learn most effectively in online courses. Conversely, students ranked tests (6.88), group projects (6.68), and interviews (6.67) as assignments that helped them learn the least (see Table 1).

In order to ensure that students were not limited to choices provided by the researchers, another question in the survey asked students to suggest effective learning activities not included on the list or in their online courses. Students suggested that live virtual audio-video chats with instructors and classmates would be beneficial. Student participants also suggested peer review of assignments. This result suggests that students perceived they could benefit from reviewing their classmates' work during the editing process as well as from receiving feedback in addition to that of their instructors.

Next, students were asked what they would do to increase the amount of learning that occurs in an online course. In some of the more noteworthy responses, students suggested instructors should (a) review the course material in advance; (b) provide more in-depth feedback; (c) interact more with students; (d) challenge students to apply material to real-world situations; (e) offer internships; (f) provide more time to read and process materials; (g) standardize grading practices; (h) limit instructors' outside commitments if they prevent them from being available to assist students; and (9) include videos of movies, documentaries, and interviews in the courses to offset some of the

readings. This feedback is instructive for university curriculum designers and online instructors. It also provides evidence that students have clearly identified perceived barriers to learning and have placed some of that responsibility squarely on the shoulders of their instructors, who may fail to meet their expectations. This feedback challenges beliefs of some instructors that learning takes place independent of instructors in online settings. Clearly, students depend on instructors to fulfill certain roles in virtual settings in order to facilitate their learning.

Table 1

*Mean Rankings of Activities in Online Learning*

Activities	Students		Instructors
	Most helpful <sup>a</sup>	Enjoyed <sup>b</sup>	Most effective <sup>a</sup>
Readings	3.0	3.4	4.0
Discussions	3.3	3.0	3.6
Library research	5.0	4.9	6.1
Writing critical essays	5.3	5.2	5.6
Case studies	5.4	5.3	5.0
Presentations	5.8	5.6	5.6
Phone calls with professor	6.3	6.0	5.7
Interviews	6.7	6.9	6.2
Group projects	6.7	6.8	7.0
Tests	6.9	7.4	6.3
Other	—	5.2	—

<sup>a</sup>Ranked from 1 (*most helpful or most effective in learning*) to 10 (*made learning most difficult or least effective*).

<sup>b</sup>Ranked from 1 (*enjoy the most*) to 11 (*enjoy the least*).

Many assignments in online courses center on discussions and research papers. These assignments contain rubrics, but the grading of these assignments alone should not constitute a measurement of success or failure. Students were asked how they determine if they learned in a course. Sample responses included “application of the material” and “when I produce an original concept combining several theories I have learned in class.” One student responded, “I know I have learned something in a course when I use it at work. I know I have learning something when I get into discussions with others about certain topics and have retained what was taught to me.” These narratives provide evidence that students are thinking about how they learn and instead of how it can be measured beyond passing grades in a course and the conferral of a degree. Several other students commented that they know they have learned when a course helps them in their career, they can share information with others, they can teach the material to peers, or colleagues notice a difference in their knowledge at work. One student mentioned going back to the course objectives to see if they were satisfied.

Students were asked which aspects of online learning they enjoy the most. They overwhelmingly indicated that they find the discussion rooms the most enjoyable part of their learning experience (2.96). With 51% ranking it first and 13% ranking it second, discussion rooms stood out as the most enjoyable method for students to learn. Students indicated they also enjoy reading assignments (3.45). Students ranked tests (7.39), interviews (6.87), and group assignments (6.77) as the least enjoyable aspects of online learning (see Table 1). These results demonstrate a correlation between what students enjoy doing and how they learn, as student rankings on both categories were consistent.

Finally, students were asked to identify the biggest barriers to their success in online courses (see Table 2). Students stated they did not have enough time to prepare (4.72), could not understand assignment directions (5.40), had trouble managing their time (6.05), and could not understand the materials (6.06).

Table 2

*Student Rankings of Factors as Barriers to Success in Online Courses*

Factor	Mean ranking
Not enough time to prepare	4.7
Unable to understand assignment decisions	5.4
Couldn't understand the materials	6.1
Professor didn't motivate me	6.4
Personal reasons	6.6
Limited interest in the topic	6.7
Didn't read text or supplemental reading	6.9
Other	6.8
Unable to write clearly or concisely	7.1
Lack of a grading rubric for assignments	7.6
Didn't know how to use the library	7.4
Technology Problems	7.9
Time Management Issues	6.0

*Note.* On a scale from 1 (*biggest barrier to success*) to 12 (*not a barrier at all*).

**Instructors' Perspectives**

A total of 22 graduate school instructors in education, business, and criminal justice master's and doctoral programs responded to a 7-item survey on how they believe

students learn most effectively in online courses. Eleven of the instructors had at least 3 years' experience teaching online courses and 10 reported having 6 more years' experience teaching online courses.

Instructors were asked to rank learning activities based on their perception of how effective each activity is for helping students to learn. Their responses echoed students' observations. Instructors ranked discussions (3.64) and readings (4.00) best and interviews (6.20), tests (6.27), and group projects (7.05) worst (see Table 1).

Next, professors were asked to explain details of an assignment they believe best helps students to learn. Their responses support a heavy emphasis on discussion rooms and reading assignments:

- “Discussion requires students to respond to at least two other students. When a discussion is well done, the professor can coach students in the discussion, capitalizing on teachable moments.”
- “Classroom discussions are the heart and soul of the learning experience.”
- “Discussions build a sense of community.”
- “Being in discussion threads and pushing the students to think.”
- “I’m able to ask students follow up questions to ensure they have learned whereas with a paper, assignments are returned and we don’t even know if students have read our feedback. The back and forth in a discussion room ensures the students are learning.”
- “There is no point in being in school if they don’t read. Everything begins with reading.”

- “Essays are effective because they require critical thinking and real-world application of the theory covered in course content.”

Professors were asked to identify an assignment that they believed does not help students learn. Several professors indicated that group projects were difficult to coordinate, resulted in disproportionate production of work, and impeded learning. These observations were consistent with students’ evaluation of group projects as an assignment that causes anxiety and rarely helps them learn.

### **Recommendations**

We recommend several courses of action based on the results of this study. First, university instructors should review the student and instructor feedback in this study and survey their own faculty and students to find out whether they share similar perceptions. If the findings mirror these results, they should consider aligning their course curriculum accordingly in order to maximize student learning and taking steps to reduce barriers to learning, as identified in the study. Second, in light of the endorsement of discussion rooms by students and instructors, university curriculum designers, instructors, and other stakeholders should revisit discussion room prompts, layout, and applicable policies and procedures to ensure discussion rooms are being used most effectively in order to capitalize on this opportunity for learning. Finally, universities should survey students 1 year after they complete their program to determine whether they are able to apply what they learned in their courses to the workplace. This step would provide the university an additional layer of evidence that learning occurred and was transferred to the workplace, one of the primary objectives in higher education.

### Conclusions

How do we measure student learning in online courses? While the need for this study can be dismissed by those who argue that grades, enrollment, and graduation rates determine success and provide evidence of learning, more thoughtful analysis reveals that unchecked grade inflation and the desire to generate revenue through high enrollment can skew evidence of learning. At the same time, we have come a long way from those who felt that understanding the technology and platform took precedence over understanding how learning takes place in an online environment (Edmondson & Manning, 2009). Without national or state standardized tests, universities have difficulty measuring student learning in comparison to their peers. Additional research is needed to help instructors and administrators understand the nature of learning from the perspective of both the instructor and the student.

We did not rely on test scores but rather sought perceptions of students and instructors and analyzed, summarized, and compared them. The results show consistent views by both faculty members and students and provide valuable insight into widely held beliefs about how students learn in online courses. Traditional methods of assessment such as tests were widely disparaged, whereas more modern methods such as discussion rooms were embraced. Related research on the topic supports these findings. A desire to add live audio-video chats was also noteworthy. As universities seek to respond to challenges about the value of distance learning courses, they will be well served to use this knowledge to develop courses and maximize the complex nature of learning.

### References

- Arend, B. (2007). Course assessment practices and student learning strategies in online courses. *Journal of Asynchronous Learning Networks, 11*(4), 13-17.
- Babacan, A. (2009). Distance education and the incorporation of an online learning activity into the human rights law course to promote deep learning. *Turkish Online Journal of Distance Education, 10*(1), 57-65.
- Baglione, S., & Nastanski, M. (2007). The superiority of online discussion: Faculty perceptions. *The Quarterly Review of Distance Education, 8*(2), 139-150.
- Bawane, J., & Spector, M. (2009). Prioritization of online instructor roles: Implications for competency-based teacher education programs. *Distance Education, 30*(3), 383-397.
- Bliss, C., & Lawrence, B. (2009). From posts to patterns: A metric to characterize discussion board activity in online courses. *Journal of Asynchronous Learning Networks, 13*(2), 15-32.
- Bonk, C. J., Hara, N., Dennen, V., Malikowski, S., & Supplee, L. (2000). We're in TITLE to dream: Envisioning a community of practice, "The Interplanetary Teacher Learning Exchange." *CyberPsychology and Behavior, 3*(1), 25-39.
- Dobbs, R., Waid, C., & del Carmen, A. (2009). Students' perception of online courses: The effect of online course experiences. *The Quarterly Review of Distance Education, 10*(1), 15-32.
- Edmondson, B., & Manning, D. (2009). The primacy of philosophy for effective learning. *The International Journal of Learning, 16*(2), 553-568.

- Ellis, R. A., Goodyear, P., Prosser, M., & O'Hara, A. (2006). How and what university students learn through online and face-to-face discussion: Conceptions, intentions and approaches. *Journal of Computer Assisted Learning, 22*(4), 244-255.
- Fernandez, M. (2007). Communication and instruction in an online graduate education course. *Teaching Education, 18*(2), 137-150.
- Gerber, S., Scott, L., Clements, D., & Sarama, J. (2005). Instructor influence on reasoned argument in discussion boards. *Educational Technology Research & Development, 53*(2), 25-39.
- Hu, H., & Gramling, J. (2009). Learning strategies for success in a web-based course: A descriptive exploration. *The Quarterly Review of Distance Education, 10*(2), 123-124.
- Howell, S., Laws, R., & Lindsay, N. (2004). Reevaluating course completion in distance education. *Quarterly Review of Distance Education 5*(4), 243-252.
- Husson, W., & Waterman, E. (2002). Quality measures in distance learning. *Higher Education in Europe, 27*(3), 253-260.
- Kirtman, L. (2009). Online versus in-class courses: An examination of differences in learning outcomes. *Issues in Teacher Education, 18*(2), 103-116.
- Nkonge, B., & Gueldenzoph, L. (2006). Best practices in online education: Implications for policy and practice. *Business Education Digest, 15*, 42-51.
- Perrault, H., Walkman, L., Alexander, M., & Zhao, J. (2008). Graduate business students' perceptions of online learning: A five-year comparison. *Delta Pi Epsilon Journal, 50*(3), 164-179.

Steinman, D. (2007). Educational experiences and the online student. *TechTrends: Linking Research and Practice to Improve Learning*, 51(5), 46-52.

Wyatt, G. (2005). Satisfaction, academic rigor and interaction: Perceptions of online instruction. *Education*, 125(3), 460-468.