

Teaching Tips/Notes



Increasing Student Engagement with Technology and a TA: Connecting On-Campus and Distance Learners

Introduction

The degree to which students engage in their course material is a strong predictor of student performance. (National Survey of Student Engagement. [2014]. Bringing the Institution into Focus—Annual Results 2014. Bloomington, IN: Indiana University Center for Postsecondary Research) Individual student's interactions with instructors and peers is one important indicator of student engagement. Many of today's college students are comfortable using web-based technology in all areas of their life and have come to expect the use of technology in their academic programs. Instructors of online courses often struggle with how to better engage the students they rarely or never see in person. We introduced popular and easy-to-use web-based tools into our online general education nutrition course to provide regular opportunities for online students to interact with instructors and peers in real-time.

Google Hangouts on Air and YouTube were used to broadcast lectures being delivered to students in a traditional on-campus section of the course to students in the on-line section. In addition to the live broadcast, a teaching assistant (TA) hosted an online chat during the live-broadcast lecture and at another designated time each week. By using the live chat feature, students were encouraged to ask questions that the TA would then answer in real time in the on-line environment. If the TA felt it was appropriate, she would deliver the question to the instructor who would pose and answer the question for all students to hear.

Procedure

The online course was delivered to students using Canvas, a learning management system. We used Google Hangouts on Air (https://www.youtube.com/channel/UC4R8DWoMoI7CAwX8_LjQHig) as our platform for the live and archived lectures and virtual office hours. Google Hangouts on Air recently renamed YouTube Live is a free broadcasting tool that allows Google and YouTube users to host and broadcast live through YouTube. For the live broadcast lectures, a YouTube link was embedded in a designated space within the Canvas course and shared with online students prior to the lecture. Students were not required to have a Google or YouTube account to be able to access the YouTube link and the YouTube link was accessible via any web-enabled device. The broadcast link included a visual feed of the screen that was being shown and an audio feed of the screen being shown in the live lecture.

The standard chat tool within Canvas was chosen for the online chat during the live broadcast lectures. Using this chat tool, online students could interact with the teaching assistant in real-time. The TA, who was physically present in the classroom as the lecture was being broadcast, monitored and answered questions from online students and alerted the instructor to respond to questions and requests from online students when appropriate. When the lecture was over, it was recorded and saved automatically through YouTube My Channel. The link for the recorded lecture then became available to both the online and the on-campus students.

YouTube Live was used for weekly virtual TA office hours. Like the live broadcast lectures, the link was sent through Canvas prior to the designated start time of the office hours. The link was made available to both on-campus and online students, and it included a review of the previous lecture as well as an open discussion period where students could ask questions

and other students or the TA could respond with answers. Students communicated with the TA and other peers by using either the Q&A feature on YouTube Live, or if they were not a Google+ or YouTube user, the chat tool within Canvas. The TA received questions from distance students via the web-based tools and answered the questions verbally over the YouTube Live broadcast as described. The TA and instructor then met weekly to discuss the commonly asked questions and comments from students during the virtual TA office hours so that the instructor would know what concepts needed to be clarified or discussed further during the next week's lecture.

Assessment

We assessed student satisfaction and learning performance by comparing student course evaluations and final grades earned in the course from spring of 2016 (n=137), which was the semester we implemented these changes, to spring of 2015 (n=99). The course was taught as usual during spring of 2015. Lectures were recorded for students, but there was no structured opportunity for online students to engage with instructors, TAs, or other students outside of email. IDEA course evaluations were collected and evaluated. IDEA course evaluations are on a 5-point scale with 1 being the most unfavorable response and 5 being the most favorable response. The same instructor taught the course both spring of 2015 and 2016. During the spring 2016 semester, 14% of students accessed the Google Hangout broadcast, archive, or chat sessions.

It required 2-3 hours of time each week for the teaching assistant to facilitate the lecture and office hour sessions. The raw IDEA scores for being an "Excellent Teacher" and an "Excellent Course" were higher in the spring of 2016 than they were in the spring of 2015 (4.4 vs. 3.9 and 4.3 vs. 3.8, respectively). The converted averages of these scores were in the category of higher than those from all classes in the IDEA database in 2016 and similar to those from all classes in the IDEA database in 2015.

Although there was no difference between the mean final grade earned in the spring 2016 and spring 2015 classes, the distribution of scores shifted. In 2016 more students earned As and Bs and fewer students earned Cs and Ds than they did in 2015 (p=0.045).

Google+ and YouTube are familiar and easy to use as social media platforms, but are rarely used in collegiate classrooms. The novel use of these tools with facilitation from a teaching assistant may be used to provide online students with opportunities to connect and communicate with the instructor, teaching assistant, and other students. These interactions may have contributed to the observed improvement in student satisfaction and performance in the course and required little time from the teaching assistant and no additional time from the instructor.

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