
Evaluating of the Impact of Hybrid/Blended Instructional Design on Muslim Student Performance Scores in a Traditional On-campus Course

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Abstract

A traditional classroom atmosphere, creates a paradigm in which university professors must be able to quickly identify and accommodate differences among student-learning needs to achieve favorable academic performance scores while simultaneously working within university policies regarding course deviation(s) or alteration(s) in dates and times. Professors in on-campus classrooms use PowerPoint slides in lectures or discussion modules, group assignments, and flipped classrooms, while using appropriate educational technological platforms to engage student learning and enhance performance scores in classes. Generally, these modes of instructional design have been successful in achieving favorable student performance scores for domestic students in Eastern Kentucky University's (EKU) Occupational Safety and Health (OSH) degree program courses. EKU's students of Muslim faith, however, enrolled in OSH 261 Principles of Occupational Safety and Health have achieved lower than average performance scores than their domestic counterparts within a traditional on-campus instructional design. This researcher supposes the major cause of Muslim students lower scores in OSH 261 is related to poor class attendance caused by attending a weekly Friday religious ceremony called Juma'ah. Although there is a university policy regarding course attendance, there is no interpretation, exemptions, or provisions offered which provides guidance for religious accommodations for students of Muslim faith. Professors rather, are tasked to institute creative instructional design solutions, which meet student learning needs (pedagogy) towards increasing academic performance scores while working within university policy for course attendance during class dates and times. In this informal mixed-method pilot study of 96 (N=96) Muslim students enrolled in OSH 261 were exposed to a hybrid or blended approach to instructional design over 3 semesters called Adobe Connect to address both the student-learning needs, and adhere the university policy regarding student attendance to ultimately support increases in academic performance scores. The quantitative result of this pilot study demonstrated students of Muslim faith average academic performance scores increased by 5 % after Adobe Connect was implemented during the end of each semester. In an end of term focus groups discussions with Saudi Arabian or students of Muslim faith, they reported high levels of satisfaction with the new hybrid course convenience and accessibility of the Adobe Connect platform, which enabled them to master the course material they may have missed while also being able to participate in their faith obligations.

Introduction

Traditional and non-traditional students in higher learning degree programs come from a variety of backgrounds and oftentimes have learning challenges, which can impact their academic performance outcomes within their chosen degree programs. Non-traditional student learners from foreign countries, however, face particularly challenging and unique academic performance obstacles (pedagogical challenges) such as English as a second language (ESL), learning styles that deviate from the norm, while some have difficulty staying engaged in a classroom environment for various reasons. Some, or all of these challenges collectively, can negatively impact student performance scores. Faculty within Eastern Kentucky University (EKU) Department of Safety and Security (DSS) can struggle with how to adequately address and enhance foreign student performance scores in the Occupational Safety and Health (OSH) degree program, but understand increases in student performance scores is not accidental but remedied through deliberate identification, planning, implementing and evaluation of intervention strategies. As a faculty member within the DSS program, frustrated with the low academic performance scores of non-traditional students of Muslim faith in OSH 261, a hybrid instructional design methodology was implemented in Spring 2016. This hybrid or blended instructional methodology was designed to increase students of Muslim faith academic performance scores in OSH 261 and adhering to university policies related to class attendance and scheduling of courses.

Although the literatures identifies a host of causal variables for low academic performance scores for non-traditional and traditional students, the root cause for low academic performance scores hypothesized by this professor, stems from a lack of continuous course attendance and engagement by Muslim students in OSH 261. This professor operationally defines continuous course attendance for this informal study as being in the OSH 261 classroom at the appointed days/time(s) and engaging in the lecture, discussion by students, or group assignments within the university defined sixteen-week course schedule. This assertion is supported by recent studies conducted by R.P. Dean and D.J. Murphy (2013) and Marketti, Wang and Greeder (2013) and many others, where course attendance was one variable that had a strong correlation to increases in academic performance scores. Marketti et al. (2013) study, for example, found a positive correlation between student scores on exams, attendance and overall GPA. Marketti et al. (2013) goes on to cite previous research conducted by (Crede, Roch, & Kieszczynka, 2010) which contends student attendance is a reliable indicator of students success in college course than other forms of evaluation including high school GPA, SAT scores etc. This professor purports continuous attendance of Muslim students allows engagement and exposure while in controlled classroom setting to ask questions concerning challenging topics, working within group settings (peer-to-peer learning), and challenge the instructors to find different methods to discuss and dissect the topic into information the students can more readily understand. EKU's Bachelor of Science (BS) degree in OSH requires the completion of OSH 261 'Principles of Occupational Safety and Health', a Monday, Wednesday, Friday 3-credit hour course, whose student learning objectives (SLO's) serves as a general overview of the responsibilities of occupational safety and health practitioners from a supervisory or leadership perspective. OSH 261, however, is offered during the same time as a religious ceremony called Jumu'ah of our Saudi Arabian and other Muslim faith students. Jumu'ah, is a congregational prayer service that is held every Friday at noon per Islamic doctrine for male students.

EKU has an established policy concerning student's attendance in courses; however, there is no "official" guidance addressing accommodations or exemptions for Muslim students in meeting their religious obligations. Course dates and times are set by the university or departments and cannot be easily be changed as they are designed intentionally to prevent internal conflicts among university and faculty course offerings and schedules. OSH 261 Friday courses have typically had very low attendance, less than 5%, by Muslim and other international students based on the professor's course attendance records in comparison to the traditional domestic student population. The consequences suffered by our Muslim students due to missing 1/3 of the weekly course reflects in, poor grades on quizzes and tests, missed labs, and confusion about core OSH concepts and learning outcomes. It has become important for this professor to institute a targeted innovative instructional design solution to prevent continued further academic performance score issues and to ensure that the

learning needs of future Muslim students are met.

Methods

The study population consisted of 96 Muslim students in the DSS, enrolled in OSH 261 during Spring 2015, Fall 2015, and Spring 2016 semesters. The summer 2015, OSH 261 classes were omitted from this investigation because they are a 100 % online course, and do not represent a real time conflict. The population demographics of the course attendees were 90 % male; 10 % female, and overall there were 31 total Saudi Arabian or students of Muslim faith in the population. There was an average of 10 Saudi Arabian or Muslim students per semester, however, many students dropped out of OSH 261 before its completion and were excluded from the final data analysis.

This research centered on the impact of a hybrid or blended learning strategy, utilizing Adobe Connect program, as a synchronous web-conferencing platform to increase student performance scores in OSH 261. All factors concerning OSH 261 course such as the days and times, course content, tests and quizzes and lab exercises remained the same from previous on campus courses years, however, the Friday course times was switched from an traditional on-campus format to an online platform (Adobe Connect) which was recorded. All students were instructed on the proper use of Adobe Connect during the first week of classes through hands-on experiences and manipulation to include handouts of how to access and retrieve recorded materials. To further encourage student engagement and learning the Friday course lectures and assignments were recorded and a link was placed into the announcements on Blackboard, ECU's online Learning Management System (LMS) for easy access. Finally, to further engage Muslim students a specific discussion board question taken directly from the online lecture is added to the course where students had to respond and post three comments by the following Wednesday.

The addition of Adobe Connect into the OSH 261 course provided several key functions which impacted student-learning (pedagogy) and performance scores. According to Karabulut and Correia, (2013) Adobe Connect offers a number of advantages collaborative teaching and learning, among them is the opportunity to meet, interact, communicate and learn from each other. Additional functions which impacted student learning observed by this professor include: increasing the scope of faculty presence, enhancing levels of student satisfaction with their learning experiences, engaging students with increased dialogue, the hybrid course structure, and through increased learner autonomy, and increasing student retention with recorded lectures and by providing more opportunities for interaction between the teacher and students. The Adobe Connect program would allow for students to access OSH 261 course material they may have missed, complete and deliver missed assignments to their teacher, all on their own time, pace and without sacrificing their religious obligations.

Results

The quantitative results, following Saudi Arabian or students of Muslim faith from Spring 2015 through Spring 2016, with the performance score averages calculated upon the completion of the Spring 2016 semester, showed a final average of 81.33 %, which represented a 5 % increase in final grade scores (increased academic performance) with the same content over Spring 2015 and Fall 2015. Qualitative analysis, in the form of end of term focus group consisting of several of the Saudi students who were part of the study, concluded that the Muslim students viewed the addition of the Adobe Connect program favorably. Overall, Muslim students were satisfied with the ability to view and replay the lectures when convenient, and with the freedom to be able to access the course lectures from various locations and equipment. The Muslim students also reported that they enjoyed the virtual environment of the program, and were appreciative of the instructor's efforts to show consideration to and physically accommodate for their faith obligations.

The Adobe Connect system provided us with an essentially prefabricated tool for aiding our Muslim

students in the OSH 261 course. The professors role was to teach the students how to use the system and to collaborate with the course instructors to implement a hybrid learning structure tailored to the assignments and assessments given in their classes. The Adobe Connect system includes a multitude of online learning strategies that can be combined with the live attendance portion of the course to ensure these students are achieving the correct learning outcomes for OSH 261 and will be prepared to complete the most difficult courses later in the B.S. program. Several functions of Adobe Connect, including virtual learning and study sessions, pre- and post- lecture polling, file and screen sharing, as well as the ability of instructors to record or host virtual lectures, to hold virtual office hours and meetings, and to hold online tutoring sessions, were seen as integral to the success of this study.

The implementation and use of the Adobe Connect system between teachers and students followed similarly to other commonly used web conferencing applications such as Google, Skype, Elluminate, iVisit, or GoToWebinar. First, an account holder (instructor) will create a meeting room and share the web link to their students via email to allow guest access. Students do not need an account to access the meeting room and can use Adobe Connect on PC, MAC, or their mobile devices. Only basic equipment and software, including high-speed Internet (wired connection recommended), a Webcam, a headset with a microphone or built-in speakers and microphone, and a web browser such as Firefox, Chrome, Safari, or Internet Explorer), are necessary to use the program. For students who are first-time users of Adobe Connect, it is recommended that they run the *Connect Test* set up to ensure that all system requirements are met for optimal performance of the application. It is also recommended that the student allow the installation of the Adobe Connect Add-In, which requires them to have Adobe Flash Player 10.1 or later.

The roles and permissions associated with the Adobe Connect system are also easy to understand for students, as well as for instructors who may not be familiar with Adobe. The instructor-host, who is also necessarily the Adobe Connect account holder, organizes and facilitates all meetings, and has full access to all tools and features, including promoting and demoting access to guests. Guests can also be promoted to hosts at the behest of the instructor, but are not account holders and will not have full hosting functionality. Participants only need the web link to access the meeting room, but will only have spectator-type permissions to chat, respond to polls, and change their online status: raising a hand, agreeing/disagreeing, stepping away, and requests such as speaking louder or softer, or to speed up or slow down. Presenters can facilitate meetings, present content, share their screen, file share, create polls, and interact with all pods.

Conclusion

This informal study had several objectives, with the major goal being the implementation of a teaching strategy by which our Muslim students in OSH 261 would increase their overall performance scores. Based on the quantitative and qualitative analyses of our informal study results, we feel that this goal was achieved. Another principal objective of this study included: ensuring that the technology chosen would be the technology best suited to meeting the learning outcomes of our OSH program, preparing users to encounter technology issues, to embrace technology glitches, understand limitations, and the utilize technology to its full potential. We also considered alternative solutions to teacher-student dialogue and course structure challenges, alternative methods of facilitating learner autonomy, matters of timing and convenience in the use of a hybrid course structure, technical issues, pedagogical preferences, and the effects of these issues on the learner's online experience. Overall, we believe that we implemented an efficient solution to the stated problem, and will commit future research hours to further improving student engagement and student retention in the hybrid structure of the OSH 261 course, and how every aspect of the course will collaborate to meet the common goal of effective student learning.

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