Case Study of Integrating Moodle into University Teaching in an Islamic Environment

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Abstract

In the academic year 2011/2012, Alfaisal University started admitting female students, becoming the only educational institution in Riyadh city in the Kingdom of Saudi Arabia to teach both male and female undergraduates in the same (split-level) classrooms, with men sitting on the ground floor and women in the balcony. This trial integration carried with it some cultural and religious restrictions designed to limit the amount of interaction between the sexes, and this impacted the structure of our learning management system. Male and female students were allowed to communicate and collaborate directly with one another while the instructor was in the room, but on Moodle communication between them was prohibited as were all collaborative activities, since the interaction could not be adequately monitored. However, both male and female students needed access to the same course content and were allowed to collaborate with members of their own sex. Male and female faculty members, on the other hand, were allowed to communicate and needed to do so, as many of them teach identical courses. In this case study, we will focus on our experience of using Moodle with shared content and gender restrictions and how this arrangement affected the quality of instruction received by the students.

Keywords

Moodle, learning management system, Collaborative learning, E-learning, Constructivism, Islam.

Introduction

According to the "Webometrics Ranking of World Universities", Alfaisal University, located in the capital city of Riyadh, is ranked first among private universities in Saudi Arabia, and 21st in the kingdom overall. The university's primary goal is to deliver a world class education in medicine, engineering, and business, and it is unique in the Kingdom in that the faculty consists primarily of western instructors.

In 2008, the university decided to use Moodle as its learning management system, and since then male students have accessed most of their class resources and activities using this platform. Faculty members were trained to design courses and upload material in Moodle with the support of the Moodle administrator. In the academic year 2011/2012, Alfaisal University started admitting female students, piloting a Ministry of Higher Education program that saw males and females being taught in the same classroom, albeit with girls in the balcony with protective screen to allow them to see lectures without being seen and boys on the ground floor (Figure 1).

The significance of this pilot program cannot be overstated. Since the establishment of the monarchy in 1932, segregation of the sexes has been strictly enforced, and even this seemingly slight relaxation of the accepted practice was literally unprecedented.

As part of the rationale for this initiative it is possible that the variation could be attributed to the different instructors' techniques in each course if we were only to consider the minor increase in grade averages in biology, for example, but instructional techniques wouldn't account for such a large disparity in the English classes, a subject in which student interaction is crucial for skill development.

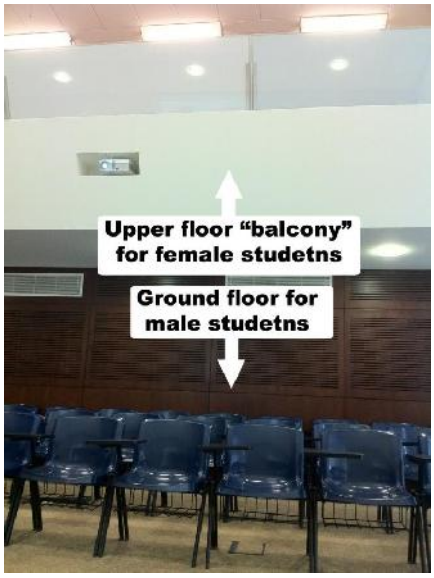

Figure 1: male and female student classroom

The success or failure of this program would have far-reaching repercussions on the Kingdom's male/female dynamic, so it was imperative that any interaction take place strictly within the narrow confines dictated by the Ministry of Higher Education. To that end, each classroom was equipped with a SMART Board and e-podium (Figure 2) on the ground floor for the use of male students and the instructor, and identical information was displayed for female students by using an additional projector and screen set at their eye level (Figure 3), in addition the balcony has microphones hanging from the ceiling (Figure 4) and speakers fixed to the walls (Figure 3), this allows the instructor and other students to hear female student in the classroom.

Figure 2: Classrooms e-podium

However, this setup precluded females from interacting with the SMART Board, relegating them to a strictly observational role. To compensate for this, some instructors allowed verbal interaction and collaboration between male and female students during their classes, such as allowing female students to answer questions asked by their male peers, or allowing both sexes to engage in discussion about issues related to the lecture, as the instructors felt that this interaction enhanced the students' education. But all of this collaboration was still strictly supervised by the faculty, so as to permit the continuation of the pilot program.

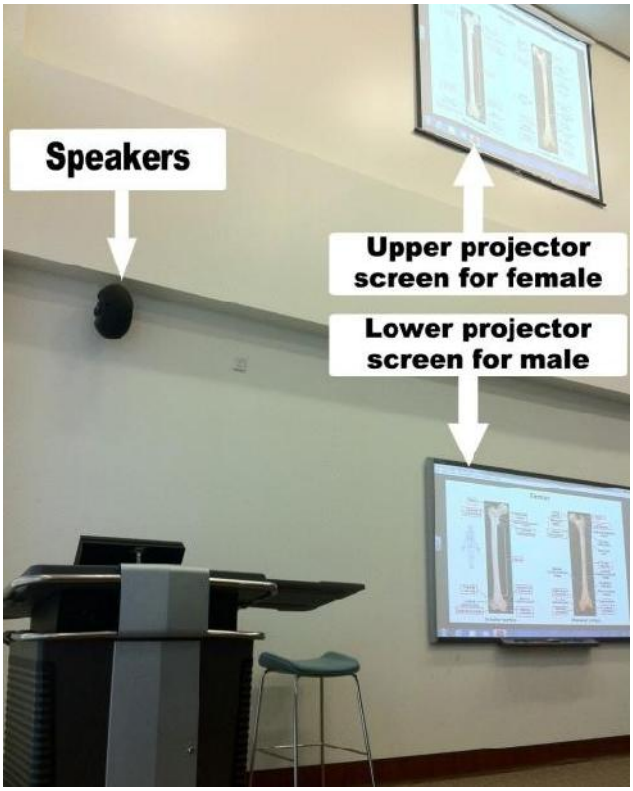

Figure 3: projectors screens and speakers

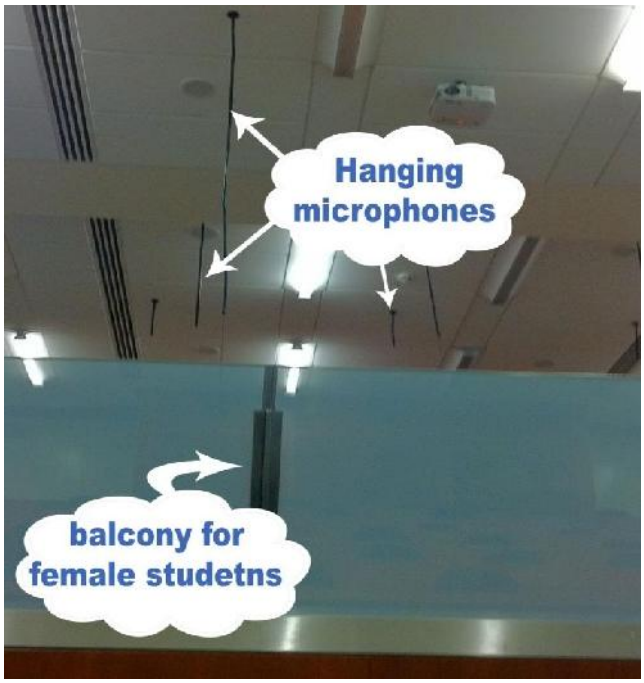

Figure 4: microphones hanging from ceiling

Moodle Implementation

Along with the decision to admit female students came a lot of new considerations, especially regarding the structure of Moodle. Students of both gender had to be able to access the same courses without being able to communicate with each other at all, and female students had to be taught without any face-to-face instruction

from male instructors. Also, whatever solution was finally settled on, students of different genders must not be allowed to communicate face-to-face or even directly in forums, chats, wikis, or email. Due to the regulations of the Ministry of Higher Education in Saudi Arabia, any collaboration has to be controlled by the teachers, including collaboration using written activities. In forums, for example, all posts should be monitored before being posted, so as to avoid any personal information exchanges between the sexes occurring. There were also additional considerations, such as ensuring that faculty could easily post the same material for both genders. As we found early on, even the perception of increased difficulty on the part of the faculty resulted in a drop in instructor Moodle usage, which had to be avoided at all costs, since the female students were counting on Moodle to be the primary teaching instrument. After a couple of meetings with the administration team, and after evaluating the requests from the faculty, we came up with two different options for configuring Moodle.

Option 1: Make two separate Moodle installations for male and female students under separate domains

Advantages:

- Faster solution.
- Guaranteed limitation of the communication between male and female students.
- Less customization (roles, permissions, groups).

Disadvantages:

- Two separate Moodle installations.
- Each teacher would be required to log in to two different Moodle sites, an irritating duplication of effort.
- Asking teachers to create the same resources and activities for two separate courses would be another annoying duplication.
- Duplication would also be necessary for site maintenance, add-ons and backups.
- Grading would be made more difficult, as the teacher would need to export grades from both Moodle domains to the university grading system “Blackbaud”.
- Creating the students accounts and enrolling them in courses would take twice as long.

Option 2: Define two new roles with different permissions for male and female students under the same Moodle installation

Advantages:

- One Moodle installation.
- Teachers would be able to share courses easily.
- All resources and activities would be created by teachers only once.
- Less effort and time would be spent on site maintenance, add-ons and backups.
- Importing grades to the university registrar’s Blackbaud system would be faster.
- Creating the students accounts and enrolling them in courses would be faster.

Disadvantages:

- More customization would be required (roles, permissions, groups).

Selected option and required modifications

After comparing the advantages and disadvantages, we selected the second option. Next, we had to separate the student role into male student and female student (Figure 5) and then define and modify the permissions for each role (Table 1) to match the required restrictions. All of the permissions were checked and were changed to “prevent” or “prohibit” for those allowing any communication between genders. These permissions modifications affected some activities like blogs, forums and wikis, as well as some blocks like the Online Users block.

Table 1: Permissions modified

Permission	effect
Send messages to any user	Students will not be able to communicate using messages
View participants	Students can't see other participants in courses
See all user blogs	Students can't see other gender blogs
See all user posts	Students can't see other gender posts in forums
Enable/disable email address	Students can't enable/disable there email address
Access a chat room	Students can't access a chat room
View list of online users	Students can't see other online users

Figure 5: Define male and female student roles

Impact on the Quality of Learning

Looking at students who studied the same material and took the same tests during Term 3, we can see that average class grades were higher in courses in which the instructors encouraged collaboration between students such as in answering questions asked by other students or engaging in lecture-related discussions (Table 2). The results of this small sampling are representative of those obtained in more comprehensive research. To date, some 500 studies of learning have found that students working in a collaborative environment experience a higher degree of learning accompanied by increased levels of satisfaction with the learning process and the learning outcomes (Johnson and Johnson 1989) than those in non-collaborative environments.

Table 2: The Impact of collaboration on the student's grades

Course	Classes with collaboration	Classes without collaboration
Math (overall average)	87.35%	68.1%
Biology (overall average)	83.75%	82.53%
English (overall average)	81.95%	65.95%

End of year Survey

At the end of academic year 2011/2012, we decided to circulate a survey to the faculty and students (both genders) asking for feedback about Moodle and their opinion of the setup. The survey were created and sent out using Google forms.

Survey Summary

The results of the survey were quite interesting. Despite undergoing training, most of the faculty did not use Moodle heavily when it was first introduced. It was only after a great deal of effort was spent demonstrating how it would positively impact their teaching, that many grudgingly decided to give it a try. The results of the survey, then, came as a pleasant surprise in that a higher-than-expected percentage of faculty members (73%) agreed that Moodle improved the students' learning (Figure 6).

Q5.2 Rate questions on a scale of 1 to 5.
Teaching my students using Moodle improved their learning.

Strongly disagree	1	5%
Disagree	0	0%
Neutral	3	16%
Agree	10	53%
Strongly agree	5	26%

Figure 6: Teaching students using Moodle improved their learning

Just as the male teachers had begun to get comfortable using Moodle, however, they were thrown another obstacle. With the admission of female students, male instructors were now being asked to limit how they used the collaborative features that they had just mastered. To compensate, many of them relied more heavily on verbal interaction than was initially envisioned by the Ministry of Higher Education. This resulted in 58% of the faculty responding that they do allow their students to verbally interact and collaborate in classes when the instructor is in the room (Figure 7).

Q5.1 Rate questions on a scale of 1 to 5.
My students (male & female) verbally interact and collaborate in classes when I am in the room.

Strongly disagree	1	5%
Disagree	3	16%
Neutral	4	21%
Agree	3	16%
Strongly agree	8	42%

Figure 7: Allowing students to verbally interact and collaborate in classrooms

Interaction of any kind with the opposite gender was new for Saudi students, and after they experienced collaboration in the classroom, we wanted to know their opinion about the prospect of collaboration in Moodle, as well. As we can see, 57% of the students think that allowing males and females to collaborate in Moodle using blogs, forums, and wikis would enhance learning (Figure 8).

Q4. Rate questions on a scale of 1 to 5.
Allowing male & female students to collaborate in Moodle using blogs, forums, and wikis would enhance learning.

Strongly disagree	11	14%
Disagree	2	3%
Neutral	21	27%
Agree	19	24%
Strongly agree	26	33%

Figure 8: Collaboration using Moodle improved learning

Conclusion

As we have seen here at Alfaisal University, integrating and using collaborative technology leads to educational benefits regardless of nationality or religion. Therefore, given the Kingdom's cultural situation, what we need to do is find and maintain an acceptable level of collaboration until such time as the practice becomes part of the architecture of the educational environment. Once a critical mass of people sees the benefits of collaboration between genders in the classroom, a tipping point will be reached and true educational change can take place. Alfaisal University will keep developing their Moodle learning management system and using it to improve classroom education, and as a result of the success of the program and the positive feedback from students and faculty, Saudi Arabia's Ministry of Higher Education has agreed to extend the program of mixed-gender education for the coming year.

Due to the small sample size, the statistics in this paper don't really prove anything yet, but at least they illustrate the desire of students and faculty alike to push the boundaries of what is considered traditional in order to realize greater educational benefits.

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