A Mixed Pedagogical Approach to Promote Undergraduate Students' Active Learning in the Retail Planning and Buying Course

Shafiqul Islam and Jewon Lyu, University of Georgia, USA

Keywords: Retail math, mixed teaching method, student engagement, active learning

Introduction. Teaching is a continuous method that generates necessary changes to learners through appropriate techniques (Ayeni, 2011). Its main goal is to enhance a learner's knowledge, skills, and thinking ability (Tebabal & Kahssay, 2011). Currently, the most popular and widely used teaching method is lecture-based teaching (LBT) to deliver knowledge to learners (Ganyupfu, 2013), which is mainly teacher-centered pedagogy where a teacher has main accountability for the exchange of knowledge (Mascolo, 2009). Regardless of its popularity and wide adoption in classroom, the LBT has received lots of criticisms in terms of its effectiveness in science-relevant courses learning and teaching as this one-way exchange of LBT often promotes passive and superficial learning (Armbruster, Patel, Johnson, & Weiss, 2009). Similar to challenges of STEM relevant course education, previous studies had indicated similar challenges in retail math course. Although retail planning and buying course, which requires mathematical application, is one of the key courses in the Fashion Merchandising and Apparel undergraduate curriculum, this course is identified as an unpopular course among students (Flynn & Sandberg, 1993). Thus, this study aims to examine different teaching approaches to find an effective way to educate and engage students.

In the literature, student-centered or flipped learning has been indicated as one of the effective teaching approaches to actively engage students (Armbruster et al., 2009; Blazquez et al., 2019). However, some researchers expressed concern in complete student-centered learning due to possibility of students not knowing what they don't know (Bergmann, 2015; Drake, 2012). Thus, a certain amount of instructor involvement is necessary to provide proper guidance as well as encourage the students to excel in their ability. Hence, we expect that a mixed teaching (MT) approach, which is student-centered learning with teacher intervention through lectures, may be effective in student performance. Based on our interests in finding an effective pedagogy in retail planning and buying class, the following research questions are proposed: (a) Does the student performance significantly differ between MT and LBT method? (b) Can this MT significantly improve student's active engagement and performance?

Research design. This study adopts a quasi-experimental design to explore the research questions. Students of retail Planning and Buying class were taught with MT method and LBT method during two semesters. A semester was randomly selected, and students (n = 39, 37 female, and 2 male) were fully taught by LBT method, and in another semester, students (n =34, female) were taught fully by MT approach. To control possible effects from extraneous variables such as instructor capability, the
comparison was based on objective outcomes, which include course materials, book, quiz, and exam format. To evaluate students' performance 4 quizzes (30 points in each quiz) were given, and a combined final exam (100 points) was requested. In LBT method, a chapter lecture was given in the class by PowerPoint presentation, lecture materials were uploaded online, and the students were allowed to ask questions during the class. At the end of each chapter, the students took a chapter quiz. Similar to LBT setting, the lecture materials were uploaded online for MT method; in addition, students were asked to go over the materials before the class. To evaluate their self-learning, either an assignment (HW) or a pre-quiz (PQ) was given based on random selection of chapters. After self-learning task, feedback was also given to the students related to their self-learning strength and weak point, followed by a class lecture. Students' test scores were analyzed and compared to see the effectiveness of each method. In addition, survey was collected to see other factors such as instructor role.

Results. A descriptive statistic and an independent sample t-test were used to investigate the differences of the students’ scores among the teaching approach. The results demonstrate that a better final exam score in MT method (m= 92.1; SD=6.7) compare to the LBT method (m= 88.2; SD=9.8) with a significant statistical difference (t = 3.04; df =57.34; p = 0.003). However, there was no difference in quiz scores between LBT (m=25.3; SD=4.8) and MT (m=25.6; SD=5.0) with (t=0.41, df=258.1; p = 0.68).

A similar statistical approach was also used to explore the differences of the students' scores between pre-quiz based mixed teaching (PMT) method and homework based mixed teaching (HMT) method. The results of quiz score shows that PMT (m =27.35 and SD= 2.85) method was effective than HMT (m=23.39 and SD=6.2) with a significant statistical difference (t = 4.53; df =84.9; p < 0.0001). Pearson correlation was utilized to explore the relation of the evaluation process (self-learning, quiz, and exam) of MT method, where a strong positive relationship (p < 0.01) was observed.

Discussion and Conclusion. Due to various needs and different learning styles among students, one particular pedagogy may not be suitable for everyone in classroom (Malek, Hall, & Hodges, 2014). Thus, we developed a new MT method and investigated the effectiveness of this method in our retail planning and buying course. The results of analyses revealed a significant improvement of students' final exam scores in MT method than regular LBT approach. Based on the results, we can conclude that students tend to actively engage in the class and proactively prepare for the class. This finding is consistent with those of similar existing literature. Rouse (2000) and Buckley (2003) also noticed that combination of online teaching methods and lecture-based teaching were more effective than either online or lecture-based methods used alone. However, the quiz scores of MT and LBT didn't show any significant difference. This may be due to short course materials for each quiz. As quizzes were taken immediately after finishing the class lecture, we may also say that short term knowledge is almost similar in both approaches. And based on exam scores, we may say that long-lasting knowledge is significantly higher in
MT approach than LBT approach. In addition, the comparison of two self-learning methods (either HW or PQ) provided evidence of the effectiveness of PQ. This may be due to that in PQ-based self-learning, students gave more effort for in-depth understanding of course materials, whereas in HW approach, students may only try to learn to specific questions that were assigned. Although this study contributes to the literature, a future study is encouraged to investigate the limitation of the current study. A longitudinal approach is encouraged to generalize the finding of study as well as applying this method in other subject courses.

References


