



Contents lists available at ScienceDirect

Currents in Pharmacy Teaching and Learning

journal homepage: www.elsevier.com/locate/cptl

Experiences in Teaching and Learning

An innovative addition to team-based-learning pedagogy to enhance teaching and learning: Students' perceptions of team exams

Parto S. Khansari^{a,*}, Leanne Coyne^b^a California Northstate University College of Pharmacy, 9700 West Taron Drive, Elk Grove, CA, 95757^b UT Tyler, Ben and Maytee Fisch College of Pharmacy, 3900 University Blvd, Tyler, TX 75799, United States

ARTICLE INFO

Keywords:

Team based learning
Active learning
Team exam
Critical thinking

ABSTRACT

Background and purpose: The study investigates students' perceptions of the value of implementing a team exam to enhance learning prior to a summative assessment. Team exams are similar to midterm exams, except that answering questions is a team effort.

Educational activity and setting: Data was collected from second year pharmacy students at California Northstate University College of Pharmacy (CNUCOP) through a self-administered online survey. The survey questions included closed-ended questions to evaluate students' perception on preparedness for a summative assessment and to rank advantages and disadvantages of the team exams.

Findings: Of the 40 students who completed the survey (38% response rate), 100% of participants agreed that having a team exam prior to a major exam made them feel more prepared for a major summative exam. Ninety-seven percent of students believed that the team exam helped them to identify gaps in their knowledge and 85% agreed that taking a team exam reinforced their knowledge by teaching other students. The survey results did not identify any major disadvantages to holding a team exam.

Summary: Students perceived that taking a team exam prior to a midterm exam is an effective approach to review the course contents and identify areas of improvement.

Background and purpose

Mastery of fundamental knowledge and the competence to employ it for practical use is essential for students' success in higher education. Cooperative learning, problem solving, small group teaching, use of simulations or interactive technologies, and case-based studies are employed to improve students' retention and ability to understand concepts.^{1–6} Effective teaching is not merely a transfer of information from educators to students. Rather, it is the process of developing students' ability to understand, analyze, evaluate and integrate information. With an active learning pedagogy, the importance of instruction is shifted from providing knowledge in the form of a comprehensive lecture to establishing strategies that promote critical thinking and the ability to search for and apply knowledge.^{7,8} In fact, the effectiveness of an active learning methodology relies on student engagement and their commitment to learn.^{9,10} Markant et al.¹¹ suggest that learning is more effective through the active collection of data rather than through the observation of someone else's data collection. These authors described the psychological differences between the two learning methods of 'selection' and 'reception'. The cognitive process of 'selection' involves engagement and attention, which improves

* Corresponding author.

E-mail addresses: pkhansari@SamuelMerritt.edu (P.S. Khansari), lcoyne@uttyler.edu (L. Coyne).<http://dx.doi.org/10.1016/j.cptl.2017.09.009>

1877-1297/ © 2017 Published by Elsevier Inc.

learning performance. The learner relies on passive observation with 'reception'. A review by Blouin et al.¹² highlights the importance of active learning in pharmacy education as a tool to prepare students for their careers. These authors argue that in passive learning most of the classroom time is allotted to provide information and, conversely, assessments are designed to identify the students' abilities to recall memorized information. Lack of strategies to ensure critical thinking and active participation in obtaining and evaluating information is a key weakness in the educational system.

Active learning is used extensively in healthcare education. In this setting, students are required to engage in critical thinking and learn skills necessary for evidence-based practice rather than passively listening to lectures.¹³⁻¹⁹ Recently, small group teaching and learning has garnered considerable favor.²⁰⁻²² One of the methods that has received significant attention and is now utilized in many educational disciplines is team-based learning (TBL).²³⁻²⁵ The premise of TBL is to enhance learning through interaction with team members and with the entire class through debates and discussions. The process of TBL includes pre-class self-study preparation, readiness assurance tests, and in-class application exercises and discussions (see Farland et al.²⁶ and Ofstad and Brunner²⁷ for an in-depth review of the TBL process). At our pharmacy school, TBL is employed throughout each course in the curriculum.

One of the four "essential elements" of TBL is giving timely feedback to enhance learning and attention.²⁸ The authors introduced a team exam review. These team exams have a similar format to individual midterm exams, with the exception that answering the questions is a team effort. The team exams are graded and comprise five of the total course grade. We hypothesized that team exams help students to feel more confident in their knowledge and be better prepared to take a major summative assessment. Team exams have the advantage of providing students with immediate feedback and the opportunity to discuss, analyze, evaluate, and synthesize an appropriate response under a setting that encourages peer discussion and debate. To test this hypothesis, second year pharmacy students in a pathophysiology and pharmacology class were given three major individual exams (including a final exam), but only the first two of the exams were preceded by team review exam.

Educational activity and setting

The course was offered over a 16-week semester, with two three-hour face-to-face class sessions each week. Student teams comprised five to six members and were created by the California Northstate University College of Pharmacy (CNUCOP) Office of Academic Affairs prior to the start of the course. Students remained in the same teams throughout the course, including for team exams. The first team exam was given on the second class session of the fifth week. The first major individual exam was given on the first class session of the sixth week. The second team exam was given on the first class session of the eleventh week. The second major individual exam was given on the second class session of the eleventh week. The third exam was given during the sixteenth week of the semester. Team exams were held during regularly scheduled class time to ensure minimal disruption to student and instructor schedules.

The team exam had components typical of both of summative and formative assessment. Each team exam comprised 5% and individual major exams each comprised 20% of the course grade. Students had three major exams of which only the first two were preceded by team exams. Team exams were closed-book and students were required to store all reading materials and electronic devices. Unlike individual exams, team exams consisted of several sections, based on different topics, with only one section and one copy of that section provided to each team at any given time. This was to provide students with closure on each topic and ensure that they were fully engaged in the next topic. To remain consistent with individual exams, questions were in a variety of formats, including short-answer, essay, matching and multiple-choice. Questions were designed to have one single best answer and mainly tested the understanding and application level of Bloom's Taxonomy. Depending on the degree of difficulty and the number of questions, students were given a specified amount of time to complete each section. When the time had expired and all answers had been submitted to the instructor, a class discussion was initiated. In line with TBL format, the discussion involved selected teams defending their response to each question. The entire class was encouraged to participate and, where necessary, the instructor clarified any subject matter. Upon the completion of the class discussion, the next section of the exam was distributed to each team. This process continued until all sections of the exam were completed and discussed. The entirety of the team exam, including discussion time, took approximately three hours. Student learning was assessed through a conventional individual major exam, also consisting of multiple-choice and short-answer essay questions, during the next class session. Allocation of points depended on the difficulty level of the questions, but typically ranged from one to four points per question. This was consistent for team and individual exams.

Survey

The survey was given during the sixteenth week of class. The survey questions were developed using informal feedback from students over the previous semesters and then reviewed by the Office of Institutional Research, Quality and Assessment at California Northstate University (CNU). Survey data were analyzed using Minitab, Version 16 (State College, PA). The study protocol was approved by the Institutional Review Board at CNU, and informed consent was obtained from students prior to their participation.

Students were asked closed-ended questions (yes, no, unsure) to assess their perceptions of the benefit of the team exams as preparation for a summative assessment (Table 1). Students were then asked to rank advantages and disadvantages of team exams (Table 2).

Download English Version:

<https://daneshyari.com/en/article/6840141>

Download Persian Version:

<https://daneshyari.com/article/6840141>

[Daneshyari.com](https://daneshyari.com)