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Efficacy of formative evaluation using a focus group for a large classroom setting in an accelerated pharmacy program

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ABSTRACT

Background and purpose: Formative evaluation is a process utilized to improve communication between students and faculty. This evaluation method allows the ability to address pertinent issues in a timely manner; however, implementation of formative evaluation can be a challenge, especially in a large classroom setting. Using mediated formative evaluation, the purpose of this study is to determine if a student based focus group is a viable option to improve efficacy of communication between an instructor and students as well as time management in a large classroom setting.

Educational activity and setting: Out of 140 total students, six students were selected to form a focus group – one from each of six total sections of the classroom. Each focus group representative was responsible for collecting all the questions from students of their corresponding sections and submitting them to the instructor two to three times a day. Responses from the instructor were either passed back to pertinent students by the focus group representatives or addressed directly with students by the instructor. This study was conducted using a fifteen-question survey after the focus group model was utilized for one month. A printed copy of the survey was distributed in the class by student investigators. Questions were of varying types, including Likert scale, yes/no, and open-ended response.

Findings: One hundred forty surveys were administered, and 90 complete responses were collected. Surveys showed that 93.3% of students found that use of the focus group made them more likely to ask questions for understanding. The surveys also showed 95.5% of students found utilizing the focus group for questions allowed for better understanding of difficult concepts. General open-ended answer portions of the survey showed that most students found the focus group allowed them to ask questions more easily since they did not feel intimidated by asking in front of the whole class. No correlation was found between demographic characteristics and survey responses. This may demonstrate that students in similar large classroom settings may respond in a similar fashion.

Discussion and summary: An overwhelmingly positive result suggests focus groups may be a valuable addition to communication routes currently employed in classrooms. The focus group offers an alternate pathway to improve student understanding in larger lecture classroom environments and may encourage more students to seek answers to questions in a timely manner without breaking classroom flow.

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Background and purpose

Young and Shaw[1] proposed six major dimensions of effective teaching: subject value, student motivation, comfortable learning atmosphere, subject organization, effective communication, and concern for student learning. Effective communication is the key to determining the success of the other five dimensions. Studies describe that effective communication can be better achieved through formative evaluation rather than summative evaluation.[2–4] The goal of formative evaluation is to monitor student learning in real time to provide ongoing feedback that can be used by instructors to improve and fine tune their teaching environment. Formative evaluations can identify gaps between what students understand and what the instructor expects them to know, or the expected learning objectives for a course. With frequent targeted feedback, the instructor can offer feedback to help students close these gaps prior to the assessment that may promote metacognition and possibly reduce anxiety.

In this study, we employed a student-based focus group model as a formative teaching evaluation tool and measured its effectiveness. Formative teaching evaluation in a large classroom is often challenging, because there is not a one-size-fits-all approach to collect and address the feedback from all students in a timely manner. Roseman University of Health Sciences, College of Pharmacy (COP) utilizes a "block" system of curricular design, which provides students with the opportunity to study only one content area at a time. The program does not award students traditional letter grades and uses a pass and fail system. It is an accelerated (three-year) doctor of pharmacy (PharmD) program with a high-stakes 90% passing rate requirement for all courses. Current communication methods in the college of pharmacy include: students asking questions before, during and after class; e-mailing, calling or texting an instructor; and visiting an instructor during office hours. However, it is difficult to determine if any of these methods can be used effectively to implement formative evaluation within a large classroom setting.[5]

The term "focus group" is defined as "a demographically diverse group of people assembled to participate in a guided discussion about a particular product before it is launched, or to provide ongoing feedback on a political campaign, television series, etc".[6] The concept of focus group in a classroom setting is not new.[7–9] In 2002, the University of Kentucky College of Pharmacy (COP) created a Student Liaison Committee (SLC), a structured program of student focus groups to improve communication in the classroom. Their study concluded that a focus group was "…an effective way of providing feedback to faculty members and students about the classroom learning environment". They stated: "Student opinions about the effectiveness of the focus groups were fairly positive, with 59–87% agreeing that the process allowed students to communicate effectively with faculty members".[10] Although their focus group (SLC) collected student feedback every day, SLC discussions and feedback were only addressed after each set of block examinations. This approach delayed responses to students and limited response periods to a total of three sessions per semester. Our study was designed differently and sought to provide feedback channeled through focus groups back to students on a daily basis, thus including the focus group as part of a formative evaluation process for the instructor.

In this study we evaluated whether a focus group can be used for formative evaluation, and if this form of interaction improves barriers to effective communication within a large classroom setting.

Educational activity and setting

This study was conducted during the first professional year of pharmacy school in a biochemistry course. In the Roseman University of Health Sciences, College of Pharmacy (COP) block-based model, students attend six hours of didactic teaching and active learning daily. The instructor running this course has done so for seven years and was the sole faculty member teaching daily for fifteen days of the block. The instructor was available for one additional hour each lecture day to address student questions one-on-one or in a small group independent of the focus group. The pharmacy classroom in this study is composed of 140 students. Seats are divided into six wedges, 25–40 students per wedge, making a circular classroom design where the instructor is in the middle. This survey-based study utilized a focus group consisting of one student from each wedge for a total of six students. The focus group size was limited to ensure all members were able to voice feedback to the instructor in a timely manner. Three students within three specific wedges were elected by their classmates, and three students from the three remaining wedges were selected by the instructor. These student representatives comprised the focus group and were tasked to receive questions, comments, and concerns provided by other students within their wedge during hourly ten-minute breaks and relay them to the instructor throughout the six-hour teaching day during break times. The focus group was also asked to approach fellow students proactively to receive feedback. The instructor was updated with any concerns and/or questions from students two or three times daily. Focus group representatives corresponded with the instructor routinely in person, and less frequently via e-mail. All responses to focus group questions were conveyed either individually to student(s) outside of classroom time, or the instructor addressed the issue with the whole classroom depending on the nature of the concern. Also, the teacher often prepared additional reading or practice materials based on focus group feedback and made these available to students via e-mail.

After a period of 15 six-hour days, wherein the focus group typically met two to three times daily with the instructor, an Institutional Review Board (IRB) approved survey with informed consent was conducted. The 15-question survey collected demographic data and assessed students' comfort level asking questions based on material presented in class. Using Likert scale, yes/no, and open-ended responses, students rated their comfort level asking questions in a variety of ways and provided insight as to what made them feel comfortable to do so. Mann-Whitney *U* and Kruskal-Wallis tests were performed to determine if demographic variables impacted the survey answers given. To objectively determine success of the focus group in regard to student learning, the same ten course learning outcomes were assessed over a three-year period using 30 multiple choice exam questions with similar levels of difficulty (10 questions per year). Group 1 (batch 2010) did not utilize the focus group method, while groups 2 (batch 2011) and 3 (batch 2012) did. The percentage of correctly answered exam questions per 140-student cohort was evaluated using Student's *t*-