Research Article

Student pharmacists' perceptions of the implementation of peer assessment instruction and activities within a didactic course ☆

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Abstract

Objective: To describe pharmacy students' experiences and perceptions of peer assessment before and after an instructional lecture and implementation of related activities within a didactic course.

Methods: Baseline perceptions and previous experience with peer assessment were collected from second professional year student pharmacists enrolled in a didactic drug information course. This was followed by an instructional lecture describing appropriate methods for providing peer assessment. Throughout the semester students provided and received peer feedback for written assignments on three separate occasions. At the end of the semester, a post-survey instrument was administered to assess changes in perceptions of peer assessment to determine the utility of incorporating peer assessment activities within the classroom.

Results: A total of 108 students responded to both the pre- and post-survey instruments, providing a response rate of 75%. At baseline, only 38% of students reported that they received training on peer assessment, while 87% reported that they had previously used peer assessment. At the end of the semester, there was a significant increase in students agreeing that they had adequately learned about peer assessment and had a favorable experience with peer assessment.

Conclusion: Implementation of in-class peer assessment activities was well-received and improved students' perception on their abilities to provide and receive peer feedback, which is a necessary component of the pharmacy work environment.

Keywords: Peer assessment; Peer feedback; Peer evaluation; Student pharmacists

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Introduction

Peer assessment is the ability to provide constructive feedback on work completed by colleagues.[1,2] This activity plays an important role in the field of pharmacy as pharmacists are continually evaluated by peers (e.g., annual work evaluations, peer-review publication process, and postgraduate training). Peer assessment allows an individual to improve upon previous work and learn from others' experiences. By providing and receiving feedback from peers, individuals can increase their critical thinking skills along with self-assessment skills.[1–4]

Peer assessment has been studied in pharmacy students both in didactic and experiential settings.[2,5–10] Studies

examining the peer-review process in pharmacy students completing advanced rotations have reported that the activity promoted learning and growth.[5,6,8] Wagner et al.[8] studied the validity and reliability of peer- and self-evaluations by comparing self, peer, and faculty grades on a seminar presentation conducted during advanced rotational experiences. Peers tended to grade each other higher than faculty grades; however, self-evaluated grades were similar to those from faculty. Students tended to favor peer assessment and found that it improved their ability to complete their own work.[5,6]

Limited information exists regarding the use of peer assessment throughout the didactic portion of the pharmacy curriculum. In Australia, peer assessment has been incorporated in the classroom through problem-based learning and medication management reviews.[2,3] Teaching this skill earlier in a student pharmacist's career in a didactic setting (compared to during rotational experiences) may be beneficial for future tasks and assignments. Abilities learned from this activity may better prepare students for rotational and work experiences, as it may improve upon self-assessment skills, knowledge of grading objectives, and aptitude to communicate with peers. Wu et al.[7] studied pharmacy students' perceptions and attitudes toward peer assessment in a drug information and literature evaluation course following peer feedback of a drug monograph assignment. Students were more comfortable if peer assessment was conducted anonymously; however, an anonymous environment may not always be available during real life peer evaluation. Although a majority of the students agreed that they had the necessary skills to accurately assess their peer, students were more comfortable with receiving feedback from their peers, rather than providing feedback to their peers.[7] Given the importance of these skills in pharmacy practice, additional methods to improve students' confidence and ability to provide peer assessment may be warranted.

Students are commonly asked to conduct peer assessment activities; however, they are rarely instructed on the specific methods on how to do so. In various studies, students conducted peer assessment with brief instruction regarding constructive feedback, grading criteria, and objectives; however, no formal methodology was utilized.[3,6–8] Formal instruction may improve students' confidence to provide peer assessment and lead to improved feedback from others. The objective of this study was to evaluate the change in pharmacy students' experiences and perceptions of peer assessment after a dedicated instructional lecture and implementation of repeated peer assessment activities throughout a didactic course.

Methods

Drug information and literature evaluation course

Principles of drug information and literature evaluation is a three-credit, required course taken by students in their second professional year at the Purdue University College of Pharmacy. The course's purpose is to provide pharmacy students with skills necessary to effectively conduct literature searches, locate drug and disease-state information, evaluate medical literature, and communicate important information to patients and healthcare providers. Throughout a 12-week semester, students complete multiple written assignments (e.g., journal article critiques, drug monograph, and drug information question response) and assessments (e.g., quizzes and final examination). During the fall semester of 2013, students were required to submit written critiques of three published articles. The written critiques required narrative analysis of the study design, subjects, endpoints, results, strengths, limitations, and impact on pharmacy practice. Students created their first draft of the written critique assignment and brought it to class one week before the final due date. During the class period, students were asked to identify a peer within the classroom to pair with and to assess each other's assignment. An evaluation sheet derived from the grading rubric was provided to aid in their peer assessment. After the in-class peer review, students had one week to edit their journal article critique and submit the final version for grading.

Instructional lecture

Immediately prior to the first in-class peer assessment activity, students were given a 30-minute instructional lecture (provided by B.P.). The main objectives of the lecture were to explain appropriate methods of providing constructive feedback, explain the practical applications of an in-class peer evaluation, and provide examples of appropriate peer assessment. Key points detailed to students about the usefulness and practicality of these activities included enhanced knowledge of the topic, potential improvement of grades, and preparation for experiential rotations. In addition, future application of peer assessment as a pharmacist included feedback to employees (e.g., pharmacy technicians), constructive criticism to pharmacy students, and improvement in one's own knowledge and skills by receiving feedback. To introduce the topic with a structured methodology, the acronym DUOS was used, which represented the following characteristics of effective peer review: (1) descriptive language instead of judgmental statements; (2) use "I" instead of you; (3) objective statements instead of subjective comments; and (4) specific instead of general feedback. Following the instructional lecture, students completed the peer assessment activity with a partner reviewing their peer's first journal article critique assignment draft. Prior to this activity, peer assessment in the didactic setting was not formally built into the curriculum.

Data collection

Electronic pre- and post-survey instruments were developed by the investigators and reviewed by a group of