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Review Article

Peer teaching as an educational tool in Pharmacy schools; fruitful or futile

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ABSTRACT

Background: In the past decade, various health care programs have implemented diverse types of peer-assisted learning (PAL) programs, in particularly peer teaching (PT), due to their reported benefits for students (both those undertaking teaching and those being taught), teachers, and educational institutes. Unfortunately, peer teaching is still under-recognized in pharmacy programs worldwide when compared to other health care programs. The aim of this review is to provide an overview of the published literature centered on formal PT programs that are implemented in pharmacy schools. In addition, this review focuses on the methodologies adopted for peer teacher recruitment and training as well as the benefits gained by students (both those undertaking teaching and those being taught). The rationales behind PT implementation are recapitulated as well. Finally, a simple scheme for successful implementation of PT activity is provided to serve as a groundwork for educators.

Methods: Pre-defined key terms were used to search for experimental peer teaching activities in pharmacy schools between January 2000 and June 2016. Titles were selected based on pre-set eligibility criteria. Only complete research articles with clear design and evaluation sections were included in this review. Studies about inter-professional peer teaching activities between pharmacy students and other healthcare professions were also included.

Results: Six relevant educational research articles containing peer teaching activities were included. A lot of variety exists between different pharmacy courses implementing PT, the format/setting of PT, how peer teachers are selected, and how training and evaluation are implemented. The studies reviewed confirmed that PT was well received by most of the students and had a positive impact on their learning outcome. These findings cannot be generalized due to the insufficient number of studies published beside their methodological limitations and inadequate descriptions of the PT format.

Implications: Though PT may be regarded as a feasible teaching strategy, care must be taken during implementation to ensure the fulfillment of the educational objectives. Proper validation of any PT initiative is required before incorporation into the pharmacy curriculum. More research using proper design and suitable sample sizes are recommended to determine the effect of PT activity on students' learning, skills development and confidence.

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Background

Recently, peer-assisted learning (PAL) has become an increasingly important part of different health care undergraduate educational programs, and it is being globally used in a variety of contexts and disciplines due to its reported cognitive, pedagogical, attitudinal, social, and economic benefits.¹⁻⁵

Peer assisted learning is not a single, undifferentiated educational strategy; it is an umbrella term incorporating various cooperative and collaborative educational approaches with students.⁶

PAL is the process of acquiring knowledge or skills from other students at different or similar experience or academic levels. It is learning with and from each other.⁷ PAL should be reciprocally beneficial and encourage the sharing of knowledge and ideas among all the participants. It could be described as a way of moving away from independent learning toward interdependent or reciprocal learning.⁷ A popular definition of PAL by Topping⁸ is “a generic term for a group of strategies that involve the active and interactive mediation of learning through other learners who are not professional teachers.”

The most common types of PAL methods reported are peer teaching, peer modeling, peer education, peer monitoring, and peer assessment.^{8,9} These PAL activities differ in their ability to assist acquisition of knowledge and skills or develop motivation and confidence. Table 1 lists different terms used in the literature for PAL and their exact definitions.

The most broadly known PAL method is peer teaching or peer tutoring (PT). PT is characterized by its specific roles: someone has the tutor “job” while the others’ role is tutee(s). As presented in the literature, PT is of interest because of its well-recognized benefits at different levels. For educational institutions, PT can address the limited faculty resources without compromising teaching quality.⁸⁻¹² The student-centered design of PT activities along with the active role of students (both tutors and tutees) in the learning process help shift the focus from passive learning to enriched, active learning while increasing the cohesion among students.¹³ Furthermore, involvement in PT reinforces confidence, communication, and presentation skills of the students who have the peer teacher’s role by providing them with opportunities to practice these skills during teaching.^{14,15} In addition, PT may help peer teachers grasp greater understanding of the covered topics and instill a life-long culture of learning and teaching.^{10,15} Other evidence suggests that students who have the tutee’s role feel more relaxed in discussing performance concerns and areas of difficulty with their peers rather than with faculty.¹⁶⁻¹⁹ Students recognize that since their peers have gone through the same learning experience, they can teach at a more appropriate level of understanding, which increases their enthusiasm for learning.¹⁷ However, there are several concerns when founding a peer teaching program, mainly selecting the tutor,²⁰ as there is a little consensus on the optimal criteria for recruitment process, training requirements, and teaching competencies.^{20,21}

Concerning the educational literature, a growing body of researchers have investigated the utilization of different types of PAL, in specific PT, within medical^{5,10,21} and nursing schools,²²⁻²⁴ while fewer studies have examined the application and the effectiveness of this intervention within pharmacy education.¹² Current literature that highlight and comparing the advantages and disadvantages of utilizing PT within pharmacy schools is lacking. Given this shortage, the objectives of this review are to present and discuss the published research as it is related to PT and present the advantages and disadvantages of using PT. Considerations adopted for peer teachers’ recruitment and training are also highlighted. In addition, the steps needed for designing effective PT initiatives based on research findings are presented. Finally, a discussion of the drawbacks and limitations of PT found in the research that will lay the groundwork for future studies.

Methods

Review objectives were established along with the selection criteria and search method. An Electronic search was conducted to locate research articles related to this topic in academic peer reviewed journals between January 2000 and June 2016. Several databases were utilized in the search: PubMed, ScienceDirect, Web of Knowledge, and ERIC. Web search engines were also utilized, including Google and Bing.

Table 1
Different forms of PAL activities in literature.

Term	Definition	Refs.
Peer teaching	People from comparable social groups who are not professional teachers assisting each other to learn and learning themselves by teaching.	6,8
Peer modeling	Provision of a competent exemplar of required learning behavior by a member (s) of a group with the purpose that others will mimic it.	8
Peer education	Sharing of information, attitude or behavior by people who are not professionally trained educators, but whose goals is to educate people and clarify general life problems and identify solutions.	9
Peer monitoring	Involves peers observing and checking whether their partners are engaged in appropriate and effective processes and procedures of learning and studying.	6,8
Peer assessment	Peer assessment requires students to provide either feedback or grades (or both) to their peers on their performance based on a set criteria of excellence.	6,8

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