

# Benefits and challenges of peer learning methods in health professional students: A literature review

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## ABSTRACT

**Introduction:** The curriculum for health profession education uses a variety of teaching techniques. A strategy is needed to create a creative learning environment during the implementation of the academic learning process so that students can achieve the expected competencies. Peer learning is one of the learning methods to facilitate student learning experience. Peer learning (PL) uses peers as tutors in the learning process and the process of students learning with and from each other. The application of the peer learning method in the health student learning curriculum is considered to have several advantages and challenges.

**Purpose:** To identify the benefits and challenges of implementing peer learning methods on health professional students.

**Methodology:** This study is a literature review with databases from ScienceDirect, PubMed, Scopus and Emerald. The articles search results obtained 10 articles that were screened using the PRISMA guide. This study is looking for articles about peer learning methods in health students who are included in the inclusion criteria.

**Findings:** There are total 1273 articles obtained from 4 databases, with details ScienceDirect 499 articles, PubMed 366 articles, Scopus 255 articles and Emerald 153 articles. The results of a review of 10 articles show that the peer learning method can be implemented in academic learning settings as well as clinical learning. The application of peer learning methods in the learning process has several benefits including; improve social skills, increase knowledge and better understanding of learning materials, increase self-confidence, improve clinical skills. Apart from the benefits, there are some challenges in implementing the PL method.

**Implication:** PL can be applied in health student learning because it has many benefits for health students.

**Keywords:** peer learning, peer assisted learning, near peer assisted learning, health professional students.

**Cite This Article:** Sriwigati, D., Musharyanti, L. 2022. Benefits and challenges of peer learning methods in health professional students: A literature review. *Bali Medical Journal* 11(3): 1626-1631. DOI: 10.15562/bmj.v11i3.3755

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Received: 2022-09-12

Accepted: 2022-10-12

Published: 2022-11-14

## INTRODUCTION

The learning method at the education stage is one of the keys to success in the implementation of the teaching and learning process. Educational institutions should adopt teaching strategies that can help students learn so that they can achieve their learning objectives as much as possible. On the other hand, the variety of learning methods for students of health professions in Indonesia is still limited. Considering the global shift in the learning paradigm, from teacher centered learning (TCL) to student centered learning (SCL), SCL provides opportunities for students to learn actively and independently in improving competence.<sup>1</sup>

The SCL learning methods consist of: contextual learning, role play and simulation, small group discussion, discovery learning, problem-based learning, project-based learning, and

cooperative learning.<sup>2</sup> Peer learning (PL) or peer-assisted learning (PAL) is a form of student center learning method, where students are the center of the learning process. PL is a type of learning where students from the same program help each other in the learning process.<sup>3</sup> Students who act as tutors in the implementation of peer learning method do not mean replacing the role of professional teachers, but helping each other between friends in the learning process. Peer learning is not a new concept and has been well documented in education, psychology is concerned with peer learning or peer mentoring in clinical placements.<sup>4</sup>

Peer learning methods are currently widely used in various universities in developed countries. The use of peer learning methods can be applied in the setting of the campus academic curriculum as well as off-campus practice. The question for this review is “how is the

implementation of peer learning methods in health students?”. This review aims to identify the benefits of peer learning methods that can increase student knowledge in the health professions and the challenges of applying peer learning methods. The author uses a literature review approach to describe the benefits and challenges of implementing peer learning methods for health students.

## METHOD

We use a literature review approach to describe the benefits and challenges of implementation peer learning methods in health professional students. The search strategy was carried out by looking for the main articles related to the peer learning method for health students. The databases used are ScienceDirect, PubMed, Scopus and Emerald using Boolean operators (AND, OR) and using the keywords peer

learning or peer-assisted learning or near peer assisted learning and health students.

Articles are determined based on two criteria. The inclusion criteria are original articles with a range of 2016 – 2021, in English, quantitative and qualitative research types, and the respondents are first semester students of the health professions to the professional stage. Articles are checked for duplication to eliminate similarities, selected based on title and abstract and then filtered to get complete and appropriate articles. Exclusion criteria were articles with incomplete or unclear research methodology, articles presented only in abstract form. Article selection using PRISMA guidelines. Below is an overview of the search strategy and selected article results.

## RESULT

The articles generated from the four databases were 1,273 articles. The results showed that the 10 articles reviewed used the peer learning method in the learning process of health students. The total participants is 811 participants from all articles, who are health students from the first semester to the professional stage. The students have received the peer learning method. Nursing student = 3 articles, medical student = 4 articles, pharmacy student = 2 articles and health student = 1 article. The scope of the research setting, t includes 1 article on clinical practice settings and 9 articles on academic settings. Below will be explained about the themes that the author found in the articles reviewed and a summary of those articles.

## DISCUSSION

The results showed that the application of the peer learning method had several benefits for students, including; can improve social skills, increasing knowledge and a better understanding of learning materials, increasing self-confidence and improving clinical skills. Furthermore, the scope and challenges of implementing peer learning as a learning method are also described in the article.

### Scope of Peer Learning

The number of learning methods that need attention in the education process

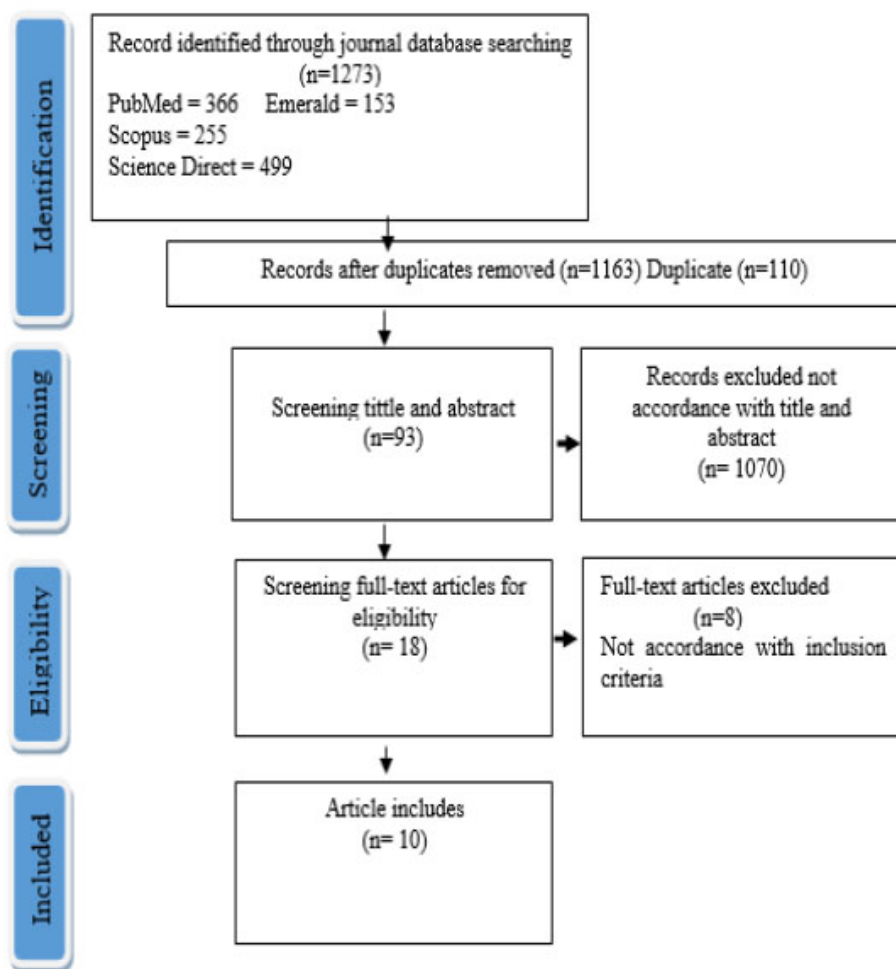


Figure 1. PRISMA (Search and Screening Strategy).

Table 1. Themes in Review Articles.

No.	Theme	
1.	Scope of Peer Learning	- Clinical setting - Academic setting
2.	Benefits of Peer Learning	- Improve social skills - Increase knowledge and better understanding of learning materials - Increase self-confidence - Improve clinical skills
3.	Challenges of Implementing Peer Learning	- Cognitive ability - Social congruence

for health students is increasing, and the application of learning methods in an integrated and effective teaching and learning process is very important. The health education curriculum requires a combination of clinical practice and theory, as well as critical thinking in problem-solving and clinical skills.<sup>15</sup>

The peer learning method is an innovative idea in learning methods that can be applied in campus academic curriculum settings and off-campus practices.<sup>16</sup> Peer learning supports

an emphasis on the learning process, including the emotional and intellectual support students provide one another. In stark contrast to peer teaching where the roles of the teacher and student are fixed, PAL displays an unlimited learner's role which can fluctuate during the learning process. PAL engages students in taking shared responsibility for identifying their own learning needs and managing individual educational plans to achieve their learning goals.<sup>3</sup>

**Table 2. Summary of The Included Ten Articles for Peer Learning in Health Students.**

No	Author (Year) Title	Method	Result	Theme
1	Petzold ER ,Keifenheim KE, Junne F, et al <sup>5</sup> Peer-Assisted History Taking Groups: A Subjective Assessment of their Impact Upon Medical Students' Interview Skills	<b>Purpose:</b> to find out participants' expectations, experiences, and willingness to learn in groups with the help of peers <b>Design:</b> pre and post-test <b>Sample:</b> 42 medical students <b>Intervention:</b> peer-assisted <b>Instrument:</b> questionnaire adapted from Hill's using MCQ test	The most important motivation for medical students to participate in peer-assisted group discussions is that they can complete structured medical interviews, reduce difficult interview situations, and deal with patients' emotions appropriately.	Benefits
2	Ruble MJ, Cole JD, Donnelly J, Groves B. <sup>6</sup> Peer-assisted Learning: Clinical Skills Training for Pharmacy Students	<b>Purpose:</b> to assess the impact of peer teaching on students' grades and confidence when preparing for the OSCE final exam in the Doctor of Pharmacy program <b>Design:</b> pre and post-test with the control group <b>Sample:</b> 45 pharmacy students <b>Intervention:</b> Peer-assisted learning <b>Instrument:</b> confident survey	The result showed that peer-led training sessions were effective in improving student achievement and increasing self-confidence in the OSCE exam. Positive result and positive feedback given by students are expected to be implemented in a peer-led training session. The peer-assisted learning programs can be adapted to other educational programs to increase student self-confidence and enhance clinical skill competency.	Benefits
3	Sibiya MN, Ngxongo TSP, Beepat SY <sup>7</sup> The Influence of peer mentoring on critical care nursing students learning outcomes	<b>Purpose:</b> to explore the effect of peer mentoring on nursing students learning outcomes in the critical care unit <b>Design:</b> Qualitative exploratory <b>Sample:</b> 10 nursing students <b>Instrument:</b> face-to-face in-depth semi-structured interviews	The results of this study confirm that peer assistance is an important strategy in helping nursing students achieve their learning outcomes.	Benefits and challenges
4	Khare AS, Kamble PH, Maske SS, Sharma G, Kowale AN. <sup>8</sup> Peer-assisted teaching method to foster learning physiological basis of ECG among 1 <sup>st</sup> year medical graduate students	<b>Purpose:</b> to assess the benefits and results of peer-assisted teaching on students understanding and knowledge on one of the important topics, namely the physiological basis of ECG <b>Design:</b> non randomized <b>Sample:</b> 184 medical students <b>Intervention:</b> peer-assisted teaching <b>Instrument:</b> 1. MCQ pre-test dan post-test 2. Peer teaching experience	The result showed that medical students received mostly positive feedback about the usefulness of peer learning as a learning method. Thus, peer-assisted teaching was found to be a viable and effective method of learning about concepts in physiology.	Benefits
5	Parmar S, Kaur S, Siddiqui A, Sarin J. <sup>9</sup> PL versus CT regarding antenatal assessment among nursing students in terms of knowledge, skills, and satisfaction: An interventional study	<b>Purpose:</b> The aims to assess peer learning (PL) versus conventional teaching (CT) teaching on antenatal assessment in terms of skills, knowledge, and satisfaction among nursing students. <b>Design:</b> quasi-experiment <b>Sample:</b> 51 nursing students (20 PL, 31 CT) <b>Intervention:</b> Peer learning dan conventional teaching <b>Instrument:</b> MCQ pre-test and post-test	Based on research findings, it can be concluded that the PL group and CT group were found to have the same effectiveness value in increasing the skills and knowledge of nursing students regarding antenatal assessment.	Benefits

No	Author (Year) Title	Method	Result	Theme
6	Baqal OJ, Saadallah AA, Soheib M. <sup>10</sup> Peer-Led Surgical Safety Learning Among Medical Students Using a Novel Story-Based Approach	<b>Purpose:</b> to find out the method of learning about surgical safety based on peer-guided stories <b>Design:</b> pre-test post-test <b>Sample:</b> 75 medical students <b>Intervention:</b> peer-assisted learning based on narrative learning <b>Instrument:</b> MCQ single best answer	Narrative story-based peer-assisted learning is an effective way to engage medical students in patient safety practices and is useful for increasing their knowledge and awareness about patient safety, drug safety, and infection control, as well as instilling a sense of responsibility in medical students' field.	Benefits
7	Brunelli L, Tullio A, Perri G, et al. <sup>11</sup> Peer education for medical students on health promotion and clinical risk management	<b>Purpose:</b> to evaluate the impact of health promotion interventions and peer-assisted learning clinical risk management interventions on the knowledge level of medical students <b>Design:</b> descriptive analysis <b>Sample:</b> 62 medical students <b>Intervention:</b> peer-assisted learning <b>Instrument:</b> 1. Knowledge questionnaire using MCQ before and after intervention 2. Satisfaction questionnaire 3. Tutee group assignments	This peer-assisted learning-based educational intervention shows its effectiveness in significantly increasing the knowledge of medical students. The results of the study found that PAL can be a viable method for topics of health promotion and clinical risk management.	Benefits
8	Aljahany M, Alhamedah F, Dator WL, Malaekah H, Alzahrani H. <sup>12</sup> Simulation-Based Peer-Assisted Learning: Perceptions of Health Science Students	<b>Purpose:</b> This study aims to evaluate the ability to receive benefits of health science students through Simulation Based-Peer Assisted Learning (PAL) <b>Design:</b> a mixed-method <b>Sample:</b> 11 health students <b>Intervention:</b> PAL based on simulations <b>Instrument:</b> participant perception questionnaire (open-ended questions)	This study emphasizes the advantages of the peer-assisted learning method based on interprofessional simulations, which helps students understand the learning process. All respondents expressed enthusiasm for using simulation-based PAL in their learning methods. This study underscores the importance of developing the PAL method at the institutional level. Simulation-based implementation of PAL allows students to expand their knowledge and equip themselves with practical communication skills.	Benefits
9	Gisbert DD, Rivas AV. <sup>13</sup> Implementing Peer Tutoring for the Development of Empathy in Nursing Education	<b>Purpose:</b> to determine the effect of the training method through peer tutoring, which aims to develop empathy among nursing students <b>Design:</b> A mixed methods of sequential explanatory design, quantitative using quasi-experimental design, then combined with a qualitative design. <b>Sample:</b> 76 nursing students <b>Intervention:</b> training method using peer tutor	Results revealed that there was a statistically significant increase in empathy in the intervention group. Further analysis, peer tutor interactions in this study resulted in a context in which the tutee was able to understand complex concepts, make students participate and discuss with each other. Peer tutoring is an effective method to develop empathy in nursing students.	Benefits

No	Author (Year) Title	Method	Result	Theme
10	Vyas D, Delnero T. <sup>14</sup> Peer Teaching in an Interprofessional Education Activity (IPE) Focused on Professional Skills Development	<b>Purpose:</b> to assess the impact of interprofessional taught through peers on the educational activities of pharmacist assistants in assessing self-confidence and attitudes related to professional skills <b>Design:</b> pre-post-test without a control group <b>Sample:</b> 210 pharmacy students dan 45 pharmacist assistant students <b>Intervention:</b> peer-taught interprofessional activity <b>Instrument:</b> confident and attitude survey	Students' assist the benefits of the peer teaching method in IPE activities to increase self-confidence need to be a concern. Students' self-confidence increases through the pharmacist's peer learning method.	Benefits

In a clinical practice setting, this newly created conceptual model for PAL provides a structure in which the overall goal is the development of knowledge and skills to help nursing students become more proficient in clinical practice, critical thinking skills and problem-solving skills, enhancing the learning experience with less stress levels, role satisfaction and creating a positive value learning environment for students.<sup>4,15,17</sup> Whereas in academic settings, the use of PAL as a learning method helps students become more active the in classroom through peer support, the discussion processes with peers in class, besides that peer learning is also effectively applied in the learning process in the laboratory.<sup>15</sup>

**Benefits of Peer Learning  
Improve social skills**

Health students are required to have good social skills in providing health services to patients. Social skills include empathy and communication skills. Complex social skills can be developed through peer learning teaching methods. Peer learning methods are designed to help students get social experiences that can increase empathy and improve communication skills.<sup>4</sup>

**Improve clinical knowledge and skills**

PAL can improve students' knowledge in various aspects, including problem solving, communication skills, critical thinking skills, and also improve leadership skills and teamwork.<sup>1,18</sup> In addition, peer support can improve the communication skills of undergraduate nursing students when interacting with patients, so as to improve the ability to provide nursing care to practical students.<sup>19</sup> Peer learning is an innovative and profitable learning method that is able to strengthen and improve the development of professional competence among students, so that teaching staff are advised to consider the application of peer learning in professional clinical practice.<sup>20</sup>

**Increase self-confidence**

The results of previous research conducted showed that the application of the PAL method in providing guidance to students can develop self-esteem and increase student self-confidence so that they

are able to prepare health students to become professional health workers.<sup>7</sup> The results of other studies indicate that PL method affects the self-efficacy of nursing students, where nursing students who take lessons using the PL method have a higher level of self-efficacy than students with conventional learning.<sup>21</sup> In addition, the application of the PL method can create a supportive learning atmosphere so that it can reduce students' anxiety levels and stress levels in participating in the learning process, both clinically and academically.<sup>4,18,22</sup>

**Challenges of Applying Peer Learning Method**

The application of peer learning methods in both academic and clinical settings have its own challenges. Cognitive ability and social congruence were identified as key factors that play an important role in the context of peer learning. Both are part of the characteristics of students who become tutors, who must be the same age, and must have expertise that is more related to the topic to be delivered.<sup>23</sup> The next challenge that arises is if students who become tutors have learning style that are very different from other students with different levels of knowledge so that they perceive students as competitors.<sup>24</sup> In addition, without the support of training and preparation for tutors related to content learning process, it will be difficult to carry out the peer learning process and achieve learning objectives.<sup>15</sup> In clinical settings, the application of PL has not been implemented consistently in many hospitals and there is also no support and structured guidance to ensure that PL implementation is formalized in the clinical guidance process.<sup>7</sup>

**CONCLUSION**

Based on the results of the literature review, peer learning methods are effective, and innovative learning methods are the key to improving student learning outcomes. PL can be applied to academic settings as well as clinical settings. PAL can provide benefits such as increasing empathy, increasing knowledge and understanding more about to learning materials, increasing self-confidence, and improving skills, and can improve

communication skills. Considering the many advantages of implementing it for students, it is very possible that PL is the choice of learning method for health students. Besides the advantages, there are several challenges are found in the application of peer learning methods, such as cognitive ability and social congruence, but that is not the reason peer learning cannot be applied. Further researchers can examine the application of peer learning based on certain methods or other aspects that affect the process of implementing peer learning in health students.

### LIMITATION OF THE STUDY

This article has not discussed the factors that influence the implementation of peer learning in the learning process.

### ETHIC APPROVAL

Not applicable.

### CONFLICT OF INTEREST

The authors declare that there is no conflict of interest associated with this article.

### FUNDING

This article does not require any funds.

### AUTHOR'S CONTRIBUTION

All authors contributed during the preparation of the literature review. Conception and design of the manuscript: Dyah Sriwigati (DS) and Lisa Musharyanti (LM). Literature search, data analysis and interpretation, supervision and discussion: DS and LM. Writing original draft and editing or revising it critically for important intellectual content, read and approved the final manuscript for submission: DS and LM.

### REFERENCES

- Stone R, Cooper S, Cant R. The value of peer learning in undergraduate nursing education: a systematic review. *ISRN Nurs*. 2013;2013:930901.
- Emaliana I. Teacher-centered or Student-centered Learning Approach to Promote Learning? *J Sos Hum*. 2017;10:59–70.
- Guraya SY, Abdalla ME. Determining the effectiveness of peer-assisted learning in medical education: A systematic review and meta-analysis. *J Taibah Univ Med Sci*. 2020 Jun;15(3):177–84.
- Carey MC, Chick A, Kent B, Latour JM. An exploration of peer-assisted learning in undergraduate nursing students in paediatric clinical settings: An ethnographic study. *Nurse Educ Today*. 2018;65:212–7.
- Keifenheim KE, Petzold ER, Junne F, Erschens RS, Speiser N, Herrmann-Werner A, et al. Peer-Assisted History-Taking Groups: A Subjective Assessment of their Impact Upon Medical Students' Interview Skills. *GMS J Med Educ*. 2017;34(3):Doc35.
- Cole JD, Ruble MJ, Donnelly J, Groves B. Peer-assisted learning: Clinical skills training for pharmacy students. *Am J Pharm Educ*. 2018;82(6):644–8.
- Sibiya MN, Ngxongo TSP, Beepat SY. The influence of peer mentoring on critical care nursing students' learning outcomes. *Int J Work Heal Manag*. 2018;11(3):130–42.
- Kamble PH, Khare AS, Maske SS, Sharma G, Kowale AN. Peer-assisted teaching method to foster learning physiological basis of electrocardiography among 1(st) year medical graduate students: An interventional study. *J Educ Health Promot*. 2019;8:64.
- Parmar S, Siddiqui A, Kaur S, Sarin J. Peer learning versus conventional teaching regarding antenatal assessment among nursing students in terms of knowledge, skills, and satisfaction: An interventional study. *J Educ Health Promot*. 2020;9:49.
- Baqal OJ, Soheib M, Saadallah AA. Peer-Led Surgical Safety Learning Among Medical Students Using a Novel Story-Based Approach. *Cureus*. 2020 Sep;12(9):e10242.
- Brunelli L, Tullio A, Perri G, Lesa L, Grillone L, Menegazzi G, et al. Peer education for medical students on health promotion and clinical risk management. *J Educ Health Promot*. 2020;9(1).
- Aljahany M, Malaekah H, Alzahrani H, Alhamadah F, Dator WL. Simulation-based peer-assisted learning: Perceptions of health science students. *Adv Med Educ Pract*. 2021;12:731–7.
- Gisbert DD, Rivas AV. Implementing Peer Tutoring for the Development of Empathy in Nursing Education. *Investig y Educ en Enferm*. 2021 Jun;39(2).
- DelNero T, Vyas D. Peer Teaching in an Interprofessional Education Activity Focused on Professional Skills Development. *Pharm (Basel, Switzerland)*. 2021 Jun;9(2).
- Choi JA, Kim O, Park S, Lim H, Kim JH. The Effectiveness of Peer Learning in Undergraduate Nursing Students: A Meta-Analysis. *Clin Simul Nurs*. 2021;50:92–101.
- Hall J, Freeman S, Parmar H, Pluen A. Team based learning: Preparing pharmacy students for an integrated curriculum during induction. *Pharm Educ [Internet]*. 2014;14(1):81–5. Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84904331001&partnerID=40&md5=a240c2575a26e514c7dce011d43b357c>
- Ravanipour M, Bahreini M, Ravanipour M. Exploring nursing students' experience of peer learning in clinical practice. *J Educ Health Promot*. 2015;4:46.
- Markowski M, Bower H, Essex R, Yearley C. Peer learning and collaborative placement models in health care: a systematic review and qualitative synthesis of the literature. *J Clin Nurs*. 2021 Jun;30(11–12):1519–41.
- Cheraghi F, Hooshangian M, Doosti-Irani A, Khalili A. The effect of peer support approach on communication skills of nursing students in pediatric clinical setting. *Nurse Educ Pract [Internet]*. 2021;52:102984. Available from: <https://www.sciencedirect.com/science/article/pii/S1471595321000202>
- Nelwati, Abdullah KL, Chong MC, McKenna L. The effect of peer learning on professional competence development among Indonesian undergraduate nursing students: A quasi-experimental study. *J Prof Nurs [Internet]*. 2020;36(6):477–83. Available from: <https://www.sciencedirect.com/science/article/pii/S8755722320300740>
- Pålsson Y, Mårtensson G, Swenne CL, Ädel E, Engström M. A peer learning intervention for nursing students in clinical practice education: A quasi-experimental study. *Nurse Educ Today [Internet]*. 2017;51:81–7. Available from: <https://www.sciencedirect.com/science/article/pii/S0260691717300217>
- Irvine S, Williams B, Özmen M, McKenna L. Exploration of self-regulatory behaviours of undergraduate nursing students learning to teach: A social cognitive perspective. *Nurse Educ Pract*. 2019 Nov;41:102633.
- Loda T, Erschens R, Nikendei C, Zipfel S, Herrmann-Werner A. Qualitative analysis of cognitive and social congruence in peer-assisted learning—The perspectives of medical students, student tutors and lecturers. *Med Educ Online*. 2020;25(1).
- McPake M. Radiographers' and students' experiences of undergraduate radiotherapy practice placement in the United Kingdom. *Radiography [Internet]*. 2019;25(3):220–6. Available from: <https://doi.org/10.1016/j.radi.2019.01.008>



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