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Exploring the Reactions of Peer Learners to a New Model of Peer-Assisted Simulation-Based Learning Clinical Placement

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Cover Page Footnote

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Abstract

In response to the paucity of clinical placements available in 2020 due to the COVID-19 pandemic, alternate options for prelicensure students were necessary in order for them to complete the fieldwork required for graduation. In response, Curtin University replaced a faculty-led fully-simulated placement with a peer-assisted learning model. This incorporated final-year students acting as peer teachers to penultimate-year students, thus creating new learning and teaching placements for the final-year students. To our knowledge, this had never been done on such a scale before. Considering the importance of meeting learner expectations in the tertiary setting, the perceptions of peer learners around the innovation were important but unknown. This study used a prospective qualitative observational design that utilized feedback from peer learners relating to learning using the peer-assisted model. Peer learners provided written reflections that were analysed thematically. During November and December 2020, 171 penultimate-year physiotherapy students participated in one of two three-week placements, and 170 consented to participate in data collection. Qualitative data reflected several enablers and barriers to learning during the experience. These related to the peer teacher attributes, the provision of performance feedback, the learning environment, and the facilitation of clinical reasoning. Peer learners enjoyed the peer-assisted model, found peer teachers able to facilitate learning, and provided useful insights that will shape future placements. The success of the model supports repeating it in the future. This will maintain a bilateral exchange of peer-led clinical learning and teaching with diminished faculty supervisory workload.

Introduction

Peer-assisted learning has been defined as people from similar social groupings who are not professional teachers helping each other to learn and learning themselves by teaching (Topping, 1996). More simply, peer teaching is an educational arrangement in which one student teaches one or more fellow students (Ten Cate & Durning, 2007a). In a systematic review of peer teaching and learning in clinical education, peer-assisted learning (PAL) was found to be an effective educational intervention for health science students on clinical placements (Secomb, 2008). Incorporating peer teaching into fieldwork placements enables students to understand and appreciate the fact that part of the role of a healthcare practitioner is indeed teaching (McKenna & French, 2011). In addition, peer tutoring using simulation has been shown to be a feasible and low-cost option to increase training capacity in medicine

(Wagner et al., 2017) and in other healthcare domains such as physiotherapy (Dennis, Cipriano, Mulvey, Parkinson, Reubenson, & Furness, 2022; Dennis, Furness, Brosky, Owens, & Mackintosh, 2020; Dennis, Furness, Hall-Bibb, & Mackintosh, 2020; Dennis, Furness, Owens, Brosky, & Mackintosh, 2019).

The most frequently noted benefit for the peer learner is related to increased confidence (Secomb, 2008). Studies have demonstrated that peer learners feel comfortable learning skills with senior peers and are able to learn from their experiences (McKenna & French, 2011). A concept called cognitive congruence is built upon the notion that the individual learns by extending their existing knowledge base (Ten Cate & Durning, 2007a). If the existing knowledge base of the teacher is vast, they are less likely to be able to rewind and understand the cognitive problems of the novice. Therefore, the peer teacher who has closer cognitive congruence may better target the teaching at the level of competence required, compared to the expert who has a much more elaborate level of understanding. There is also evidence to suggest that because student teachers and learners have social roles that are similar, a social congruence is developed. This social congruence results in student teachers demonstrating support and empathy that leads to a comfortable learning environment in which the learner is prepared to take risks and ask questions (Lockspeiser, O'Sullivan, Teherani, & Muller, 2008; Yew & Yong, 2014).

Although peer-assisted learning (PAL) has been identified as worthwhile, explicit peer learner feedback is important in the context of tertiary education, whereby learners have expectations around the standard of feedback and guidance received. This paper reports the enablers and barriers to the peer-assisted learning model as perceived by peer learners.

Method

Participants

In 2020, a three-week PAL model of clinical placement was delivered to all penultimate-year physiotherapy (PYPT) students at Curtin University as part of their fieldwork portfolio in either Integrated Clinical Science (PATH3002) or Clinical Science Fundamentals (PATH6006).

Setting

Penultimate-year physiotherapy students learned from final-year physiotherapy (FYPT) student peers during a bespoke fully-simulated placement. Authentic inpatient and outpatient environments were created, and professional actors were employed to role-play simulated patients within purpose-designed scenarios. These scenarios addressed specific learning objectives related to physiotherapy assessment and treatment.

Ethical approval and participant consent

Participants provided written informed consent, and ethics approval was provided by Curtin University Human Research and Ethics Committee (study number: HRE2020_73659).

Procedures

At the end of each week, PYPT students were invited to provide qualitative data relating to their perception as to the value of the PAL model as it was applied in the clinical setting using simulation, with particular regard to the

positive and negative aspects of the peer-assisted learning model as peer learners. Reflections were captured using Qualtrics software (Qualtrics, version January 2021, Provo, UT, USA. https://www.qualtrics.com) whereby they responded to an e-mail sent to them at the end of each week.

Data analysis

Data was extracted from Qualtrics by one investigator (AF) and then independently coded by two investigators (SP and AF) using deductive post-positivist approach (Polit & Beck, 2013). Themes and subthemes were agreed upon and the data were then collated (DD) with verbatim quotations used to support the choice of coding.

Findings

Over two months during 2020, 171 PYPT students took part in one of two three-week fully-simulated placements as part of their fieldwork requirements, and of these, 170 consented to participate in the study.

Four themes each with relating subthemes regarding enablers and barriers to learning using the peer-assisted model emerged, and these are presented in Table 1, along with verbatim quotations to support the choice of coding.

Table 1
Themes related to the enablers and barriers to learning using the peer-assisted model from the perspective of the peer learner

Theme	Subtheme	Enabler of learning: verbatim example	Barrier to learning: verbatim example
Peer teacher attributes	Confidence	"He [peer teacher] is confident and knowledgeable, which gives us faith in his feedback and instructions."	"…[Should] be more confident in giving us negative feedback, because we know we aren't doing everything perfectly."
	Approachability	"He is approachable and can help guide you in the correct direction for further information." "[She] is very approachable and makes it very easy to ask questions. She is easy to express you[r] concerns with and provides feedback to help." "He is very approachable and makes us all very comfortable with expressing our thoughts and emotion."	"Possibly being a little more interactive, seems slightly reserved. Which is not a negative at all but can sometimes come across as slightly hard to approach."
	Familiarity	"Has built great rapport with all of us but still maintains his role as a supervisor well." "He has built a good yet professional relationship with our whole group on the foundations of trust, communication, and care."	"As the 'peer/supervisor' line is hard to balance, there are instances where students have pushed the boundaries of the 'peer' line, and [she] could practice putting her foot down in those situations." "As much as it is good to have a good relationship with your supervisor, sometimes I think the line between supervisor and friend becomes a bit blurred."

Professionalism	"[She] has also maintained a professional relationship, whilst making the learning environment very friendly and safe."	"[He] is tired, but then again, he is studying for his [final exams] while running from place to place."
	"[She] is very present and is always on time and seems very switched on which makes the learning very good and more realistic."	"Taking better care of herself and not always putting us before herself, so she can continue to stay fit and healthy to supervise us."
	"[She] is friendly and fair, providing an excellent balance between being a supervisor and a senior we can rely on."	"[He] could arrive on time more often and be more familiar with the schedule."
	"Responds really well to feedback. Goes above and beyond to make sure that we get the most out of our SIM."	
Clinical knowledge and relatability	"She is very smart and gives us confidence that what she is saying is actually very applicable"	
	"The depth of [her] knowledge is incredible… and [it] really helped with explaining and outlining her approach to treatment and giving us detailed rationale for why and why not to treat or objectively assess particular things based on the information we gained in the subjective exam."	
	"[She] also put in a lot of work to make sure she was a 'full bottle' on all the topics and provided us with extra learning material, which was greatly appreciated."	
	"He came across as very knowledgeable and was always providing us with valuable tips and tricks to improve our effectiveness of assessment and treatments."	
	"[She] relates our experiences to her experiences when she was in our position."	

Teaching style	"… brilliant at explaining theory and relating it to practice." "She allows you to draw on your own knowledge and allows development of clinical reasoning through directing questions towards the task." "She is always encouraging and helping us build confidence in what we can do by confirming our hypotheses and letting us go within session[s]." "I thought it was really good that [he] would give you a chance to answer your own question and then give his feedback on what he thought. This gave me more confidence in backing myself with answers, which translated well by clinical reasoning without hesitation during the scenarios."	"Personally, I need more direction on how I can better myself based on her feedback. The feedback is great, and all makes sense, but I am then unsure what to do with that and how to implement an action plan to improve my skills. We have talked about this a little and have thought of ideas to implement but will probably be put into effect more next week." "It would be nice to be given a bit more direction and guidance with assessments and treatments I am unsure of… also more detailed feedback—e.g., for manual handling; being given information on what and how to improve it rather than simply 'the manual handling could use some work.' "
Communication style	"She also provided us information in regard to things that did not make sense to us, and it was very helpful to have a peer student explaining the content to us and explaining it in a student language." "[She] is very calm and confident in her approach and knowledge that rubs off on us as her students." "He is a chill guy and easy to communicate with." "He shows a kind and caring nature that allows the students to feel confident about approaching him." "He provides great encouragement and does so in a way that is not threatening and easy to understand."	"Could phrase questions in a clearer manner. Can be confusing sometimes." "Just to slow down at times to ensure we are following what she is saying."

Provision of performance feedback	Constructive	"All feedback consisted of both positive and constructional information which was delivered professionally." "Provides significant positive feedback ([which was] great as we all tend to be pretty hard on ourselves)." "Very constructive feedback that was specific with suggestions to improve. Goes out of his way to further our knowledge."	"I would really like to get more constructive feedback on where I can improve—if I am doing ok, how can I be even better? If I am only meeting baseline, which specific things do I need to work on?" "I think [he] could provide a little more constructive criticism that would help me to get a better idea of how I am tracking throughout the week." "This has already been addressed, but the group felt that [he] could be a little more specific and nit-picky in his feedback." "Being specific with certain components of the assessment and how to improve on the assessments. Providing information on how to structure the assessment also would be appreciated for the individual patient."
	Non-judgmental	"From the start, [he] established a safe and supportive environment in our group, where we [could] be honest without being judged." "He is very welcoming and approachable. I feel like I can ask him any questions that are on my mind without judgement." "Very easy to talk to and gives advice/criticism in a kind, non-judgemental way." "Very approachable, non-judgemental person which makes me feel very supported in the learning environment."	"[She] can be slightly more direct with feedback."

	Balanced	“Establishes confidence in students and has a good balance between positive and negative feedback.” “Really good feedback, mixing positive and negative. Making it precise and relevant to the scenarios and our growth.”	“Positive feedback is great, but areas that require work need to be a little more clearly outlined.” “Even if we do a good job, maybe try [giving] really specific feedback on ways we can improve.” “This week, the positive feedback was also limited.”
	Concise, specific, and focussed	“Able to identify key points to work on.” “[He] is concise and specific about the feedback he gives.” “Very concise practical feedback.” “Her feedback has become more specific and accurate, which has helped me to address certain points to improve on rather than receiving generalised feedback.” “[She] was very thorough with feedback, which I really liked. I thought it was really good that she focused on the areas that needed improvement the most.” “Provides excellent targeted feedback.” “As much as the nit-picking sometimes sucks and makes me feel a bit stupid, it is so helpful [for] my learning.”	“Being more concise with instructions, stay to time.” “Although he is very encouraging and optimistic, sometimes his feedback could be more concise and direct.” “Maybe more specific feedback [on] performance [of] particular cases could be given." “I feel that his feedback can be more specific to the task, like really hone-in on the area of focus. And perhaps discuss with us ways to improve it, like strategies, etc.”

	Clinical context/ examples provided	"Her sharing of personal experiences and techniques she was taught from her placements was very helpful and really helped me to develop and improve my own technique[s] and clinical reasoning." "He has also been able to educate me [about] relevant life experiences [he gained] throughout his 4th year placements." "Additionally, he used examples from 4th year prac[s] to reiterate the importance of particular scenarios, which was very helpful and helped me feel more prepared for prac." "He provides his clinical experience to guide us with options of approaching various situations."	"Giving more specific examples to support some of the feedback." "Ask more questioning to test my clinical reasoning and provide more examples of her experience on clinical placement to get a better idea of how the concepts we are learning translate to real practice."
	Equitable across all students	"Developed a trusting relationship with all students, open to have questions asked, guide[d] students to find answers on their own, developed good communication and discussion around clinical reasoning."	"…maybe ensure quieter people are given chances to give feedback." "Sometimes he can give unequal amount[s] of feedback to different people in the group. So, some might get more than others." "She can improve on giving the same amount of feedback for everybody. Sometimes one person gets more than the others." "Could maybe provide more equal feedback between group members."

	Individualised	"Great feedback—[she] found time to provide individual feedback, which was really beneficial. Specific feedback to each student during group debrief based on observations (positives and negatives). " "Really appreciated the positive and constructive feedback that [she] gave us, both as a group and individually." "She listens to our wishes and comments about her teaching style, and she would take note of it and try her best to fulfil it based on our individual learning style and needs."	"A lot of the feedback (positive and negative) provided were directed towards the group as a whole more so than at individual students. I understand that it is very difficult to keep track of multiple students simultaneously, but having more individualised feedback of what was specifically done well and not so well would be good (especially regarding what was done not so well)." "More individual/specific feedback." "A little bit more one-on-one feedback if possible so you know where and how you can improve."
	Facilitation of reflective practice	"Gave us opportunities to self-reflect and then addressed any omitted places to work better on." "… or will prompt us to reflect on something specific, instead of just telling us what he thought we could do better." "It always feels like she wants us to grow and to improve each day and this was established at the start of the week. She is not judgemental, and she gives us feedback with a rationale/reasoning behind it. She is encouraging all the time and does not give us the answers but prompts us with a question to help us to think/rationalise. She makes learning enjoyable and rewarding." "[She] pointed out the good things that I did and made sure to point out any things that I need to improve on. She did not make me feel bad about myself at all. In fact, I feel more confident as days go by, keeping in mind to self-reflect on the feedback she has given me." "Guided me to reflect and work out my own weaknesses to work on and provided areas to work on for subsequent patients."	"Would like to be told eventually if I am right or wrong with some of queries."

Learning environment created	Supportive and non-threatening	"[He] establishes a safe and supportive environment in our group, where we can be honest without being judged. He is very friendly, open, caring, and good with giving and accepting feedback. It's great to have someone like that mentoring us, so we don't feel too much pressure, and that we can be honest with things we don't quite understand yet." "Provided a very supportive learning environment." "His methods of feedback are inviting and non-threatening, which I personally find very helpful." "[He] creates a very comfortable environment where questions are encouraged, and feedback is given in a way which encourages us to improve. [He] is also good at stepping in during scenarios to question the rationale of specific assessments and treatments to ensure we remain on the right track with our sessions. This ensures that SIM is a learning opportunity and reduces unnecessary stress."	
	Engendering confidence	"She is always encouraging and helping us build confidence in what we can do." "Very encouraging and boosts confidence for future placements." "Very confidence building and belief instilling." "All the feedback that he provided me has allowed me to build my confidence and get better." "Her guidance has improved my confidence entering into 4th year." "[His] feedback on my strengths and pointers for improvement have increased my confidence."	"Some students become quite anxious, nervous, and worried about their performance, and it would have been nice for [peer teacher] to acknowledge that and talk to the students individually or even as a group and inspire some confidence."

	Time management	"[He] provides specific feedback both during the session by using timeout and [in the] debrief session. I feel that feedback within the session allows for immediate feedback, which can change the course of the assessment and treatment. This is useful as it allows time not to be wasted on interventions that are not the priority of the session. Feedback given in the debrief allows for more time for self-reflection and can be more effective for future sessions."	"Better time management with group feedback so we all can stick to the timetable better." "Better time management during feedback sessions." "Being more concise with instructions, stay to time."
Facilitation of clinical reasoning	Modelling	"[She] allows us to present a plan for the session and rationalise our aims/assessments rather than leading us through the clinical reasoning behind what she would do with the patient, which I have found super helpful." "Explanation of her approach to a treatment session is really helpful and has better helped me to coordinate and structure my own treatment more effectively and efficiency." "[He] explained everything really well and [is] easy to understand. He also went through the main focus for each scenario as well as other potential scenarios. This really expanded on our clinical reasoning."	"Explaining what [the peer supervisor] would have performed and why, so I have a better understanding on the key components of the assessment for each patient." "I am a visual learner, learn from demos, and like to learn off other people. So, if and when she gets a chance, I would love to watch her perform a few demos as an example, or show us how she would do things. Mainly just trying to learn from her experiences in 4th year." "Provide more demonstrations."
	Managing contradiction	"[She] is very good at explaining different concepts and the clinical reasoning around the way she performs assessment and treatment for different patients."	"Some of the information we have been given this week has been quite confusing and often contradictory to the things we have learnt at University."
	Facilitation through questioning		"Ask more questioning to test my clinical reasoning and provide more examples of her experience on clinical placement to get a better idea of how the concepts we are learning translate to real practice."

The first theme related to the attributes of the peer teachers themselves. Their degree of confidence, approachability, familiarity, and professionalism were all seen as potential enablers or barriers to learning. Similarly, the teaching and communication styles demonstrated were also considered to have a positive or negative effect on learning. The clinical knowledge of the peer teachers was only perceived as an enabler to learning, with many examples provided as to the apparent depth of knowledge demonstrated by the FYPT students.

The second theme centred on how performance feedback was delivered. The important subthemes enabling or blocking learning were the constructive, non-judgemental, and balanced nature of the feedback; that feedback was concise, specific, and focussed with clinical context or examples provided; and that feedback was provided equitably across all students, individualised, and potentiated students to self-reflect on their own performance.

The learning environment created by the peer teacher was the third theme to emerge as impacting learning. The level of support and threat within the setting, aspects of the atmosphere engendering the confidence of the learner, and effective management of feedback time were all subthemes reported.

The final important theme was associated with the ability to facilitate the learners' own clinical reasoning. Here modelling clinical reasoning was seen as important as well as managing contradiction in clinical approaches. Insufficient questioning of peer learners in order to test clinical reasoning was seen as a barrier to learning.

Discussion

This study supports and extends the notion of cognitive congruence within the PAL model, whereby peer learners have been able to critique the learning environment they experienced during a fully-simulated fieldwork placement and offer both the enablers and barriers to learning as they perceived them.

Peer teacher attributes of approachability and familiarity were described as conducive to learning. This might be explained by another concept known as social congruence, which describes how interpersonal rewards, such as offering friendship, may motivate both peer learners and peer teachers (Ten Cate & Durning, 2007a). Social congruence includes the notion of peers serving as role models; another of the reasons cited for implementing peer teaching was to provide role models for junior students (Ten Cate & Durning, 2007b). Modelling behaviours was specified by peer learners as a learning enabler in the PAL model, and where it was perceived as lacking, it was seen to be a barrier to learning.

Although peer students have reported concerns that PAL teachers do not always know the answer (Evans & Cuffe, 2009), data from this study reflected satisfaction with the level of clinical knowledge provided by the peer teachers. This may be a result of the careful screening and selection of peer teachers, such that all had passed their own fieldwork placements throughout their course progression. However, not all students had excellent fieldwork grades. There may have been an element of omniscient acceptance of peer teachers, whereby they were held to know and understand more than they did. Their open disclosure and readiness to accept feedback may have

contributed to this being perceived an enabler of learning rather than a barrier to it.

One of the enablers as well as barriers to learning identified by the peer learners was the ability of the peer teachers to provide individualised feedback. Group size has been described as one of the dimensions that categorises peer teaching (Ten Cate & Durning, 2007a). For example, one-to-one teaching is likely to require a different set of skills—such as counselling skills and awareness of power gradients—compared to group teaching, which may require more understanding of group dynamics and interpersonal relationships. It seems important that preparation around managing group dynamics is included in the training of the peer teachers in order that they understand the importance of counselling and interpersonal dynamics and their impact on individual performance and assessment within a group setting.

A strength of the work is the high responder rate (100%) of participants consenting to take part. The main limitations are that it reports data from only the first iteration of the model as it was applied to one professional group (physiotherapists). Generalisation to other prelicensure healthcare professional programs should therefore be undertaken with caution.

Conclusion

The resounding lesson learned was that peer learners enjoyed the peer-assisted model and could provide useful insights to help nuance future iterations of the placement in order to optimise shared learning. For example, future peer teacher preparatory training will emphasize the importance peer learners place on confidence and approachability. In addition, things like being constructive in feedback, providing a supportive learning environment, and modelling clinical reasoning to help facilitate bilateral learning will be more explicitly encouraged.

A final lesson learned from the success of this pedagogical innovation was a reinforcement of the dual benefit to FYPT students and faculty that the placement offered. Final-year students were able to meet the graduate teaching competency, and faculty supervisory workload was diminished, which was a positive outcome in a climate where these staff were already stretched to capacity realigning other teaching resources so as to be delivered online during COVID-19 distancing restrictions.

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