

Teaching my peers: Perceptions of tutors in physiotherapy practical skills training

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Background. A near-peer tutorial system was introduced and implemented as part of a second-year module to assist physiotherapy students with the practising of manual techniques. Although not the primary drive for initiating this system, there are potential added benefits for the tutor reported in the literature.

Objective. To determine the effect of near-peer teaching on the perceptions undergraduate physiotherapy students have of their own learning.

Methods. A descriptive study utilising mixed methods was used. A pre-tutorial focus group discussion (FGD) format explored the expectations and perceptions of tutors' own abilities and the proposed tutorial system. The researchers conducted a post-tutorial FGD to explore the experiences and perceptions of the tutors' learning experiences. The responses were transcribed and analysed using deductive thematic analysis. A questionnaire was used to quantify which competencies or skills student tutors thought they had obtained through the facilitation of the tutorial sessions. The results were explored using a competency framework.

Results. All ten tutors in the 2012 programme participated in the study. Students moved from *unconscious incompetence* to *conscious incompetence*, and seemed to have reached the phase of *conscious competence* by the end of the programme. *Unconscious competence* was not observed. More than half of the tutors agreed that the programme had a positive impact on their communication, ability to transfer skills and their own understanding of techniques and underlying theory, while two tutors felt that the programme did not improve their own theoretical basis of techniques.

Conclusion. Participating and functioning as near-peer tutors had a positive influence on physiotherapy students' perceptions of their own learning both in terms of own clinical technique competency, but also as teachers and facilitators of learning. It is hypothesised that these students will transition effectively between clinician and health advocate/teacher.

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Peer-assisted learning (PAL) is well described in the literature as an effective collaborative teaching strategy to aid the development of knowledge and skills through deliberate helping and supporting among equals or matched cohorts.^[1] One of the main reasons cited for

this is that students are perceived as equals and identify more easily with student tutors; this also assists with gaining confidence when engaging in learning material with one another.^[2] Lockspeiser *et al.*^[3] proposed a 'cognitive congruence hypothesis' which states that a teacher with a similar knowledge base to the learner is more effective than one who is an expert in the field but with a disparate knowledge base. A near-peer, a senior student who is one or more years senior in training to more junior students,^[4] may better understand the challenges students face, and could therefore explain concepts in a more appropriate manner and offer an alternative method for studying.^[5]

The described benefits related to PAL are, however, not always the primary rationale for implementing this mode of teaching and learning. A study by Haist *et al.*^[6] showed that replacing medical faculty teachers with senior medical students did not compromise the learning of the students. Similarly, PAL of technical skills in a skills laboratory has been shown to be as effective as training provided by experienced faculty.^[7] This evidence is frequently used to motivate for introducing PAL or peer teaching and learning (PTL) to help lighten teaching workloads for faculty.^[5] This is especially true where resources are limited and where there is a growing

demand for training more health professionals to deal with the increasing burden of disease.^[1,8]

The potential benefits of PAL for the tutors themselves are also increasingly being reported. Consolidating own-learned knowledge and refining (automating) skills,^[1] development of leadership skills, increased social interaction and increased managerial skills^[9] have all been reported in the literature. Following their review of the medical education literature, Ten Cate and Durning^[5] identified that using the analogy of the guild concept, with the intermediate (journeyman) between the student (apprentice) and the health professional (master) is a valuable but under-recognised source of education in medicine. The opportunity to teach others what they have learnt recently consolidates own knowledge and prepares them for further cognitive development. This practice of peer teaching especially prepares students for their role as health educators, a graduate attribute stipulated in most competency charters for health professionals.^[11]

Owing to increasing student numbers and financial constraints, PAL tutorials were introduced and implemented as part of a second-year module to assist with practising manual physiotherapy techniques. The tutors (who were in their third year of study) were deemed suitable as they had already begun to use these techniques in clinical practice. Tutors were trained prior to the implementation of the tutorial programme by the Centre for Teaching and Learning (CTL) at Stellenbosch University (SU). Their training included cooperative learning principles and facilitation skills. The tutors were also mentored by staff members as an extra strategy to support

their role as tutors. Although the primary drive for this initiative was to guarantee successful student throughput in an undergraduate physiotherapy curriculum, it was hoped that tutors would also benefit in that their own communication, listening, leadership, and skills-transfer abilities would improve. The aim of this paper is to describe the effect of student-facilitated tutorials on tutors' perception of their own learning.

Methods

This descriptive study utilised both qualitative and quantitative data collection methods. Ethical approval was granted by the SU Health Research Ethics Committee (N12/04/018). Informed consent from all 2012 third-year tutors was obtained.

Data collection and analysis

Two semi-structured interview schedules were used for focus group discussion (FGD) with the tutors. A pre-tutorial FGD explored the expectations and perceptions of the new format of teaching and tutors' own abilities. The post-tutorial FGD explored tutors' experiences and perceptions of their own learning. These FGDs were conducted by the same researcher. In addition, a questionnaire was developed by the research team in collaboration with CTL to determine tutors' perceptions of their own learning, and this was completed at the end of the programme. The questionnaire was piloted for face validity. The self-assessment questionnaire required tutors to indicate which competencies or skills they had developed through facilitation of the tutorial sessions. These skills pertained to communication, listening, leadership, helping, social and skills-transfer abilities. Tutors were asked to rate their skills in these domains on a five-point Likert scale (ranging from strongly disagree to strongly agree). They were also asked to rate whether their own understanding of the practical technique and the theory underpinning these techniques had improved.

FGDs were audiotaped and transcribed. These transcriptions were deductively analysed independently by two researchers to determine the main themes. The data from the questionnaires were graphically presented and the total number of responses for each category was determined.

Results

All ten tutors in the 2012 programme participated in the study. From the pre-tutorial FGDs, three themes emerged. Tutors had a tendency to focus on their concerns regarding competence, confidence and the logistics of the programme. They also verbalised their perceptions of how the programme might impact on themselves as well as the tutees.

In the post-tutorial FGD, the themes which emerged highlighted the resolution of the concerns regarding competence, and focused more on the impact of the tutorial programme on their own competencies and skills. Tutors also identified additional benefits relating to relationship building, leadership skills development and the importance of time management.

Pre-tutorial FGD

There were tutors who perceived themselves to be responsible for the learning of their peers, some of whom were confident that they had the necessary knowledge to do so and some who expressed anxiety at the perceived high level of responsibility. They reported concerns that adaptations in the clinical setting of techniques learnt in the classroom would influence their tutoring. Tutors expressed concern that this might confuse the second-year students not yet exposed to the clinical environment. Although tutors

expected to function as facilitators and not as teachers of new techniques, they still expressed concern regarding accuracy and consistency across the tutorial groups.

With regard to the benefits of the programme, tutors believed that it would benefit their own learning because of the forced revision of the techniques, as well as positively contributing to the tutees through individual attention and immediate feedback. Their ability to position these techniques through mentoring, in the context of the broader programme for the tutees, was also seen as a potential benefit. This mentor role within this less intimidating environment would also contribute to relationship-building between year groups.

Post-tutorial FGD

Tutors recognised that learning styles of tutees differed and perceived a need to adapt their teaching style to the different needs of their tutees.

'So there are people like me out there who learn better from having it done on ourselves and there are other people who learn by doing it, and there are other people who learn by watching.'

Similarly, students reported that they were able to pass on knowledge and skills in a contextualised manner and that this contributed to more effective learning. Tutors realised where they had gaps in their own learning and could address these accordingly while seeing an improvement in their own performance in clinical practice.

'I remember the next day when I went to clinical, I had a patient that I needed to do that on and we had just done it the day before. I probably wouldn't have remembered properly if I hadn't done it again with the second years.'

Another comment – 'I think it helped me in that I could better explain the effect of the techniques to my own patients now' [translated] – further supports the overflow into their own clinical practice.

Perceptions of tutors were that this process allowed them to develop deeper relationships with their peers, as well as between year groups, and this allowed them to learn from each other.

'You feel a deeper connection to students because you have helped them and have seen them more...' [translated] and 'but getting to know some of the others, some from the other groups now also stop me in the passage and feel free to ask me questions, they know who we are' are comments suggesting the value of these relationships. One tutor commented, 'I would have wanted [liked] someone to talk to at the end of my second year.'

They also identified the improvement of their leadership abilities as the tutorial programme progressed, which included dealing with issues of discipline and seniority. Given that participating in this programme would impact on the time that they had available for their own third-year academic programme, the students recognised the importance of time management. The following comment was shared in the focus group: 'We also have class, we also have tasks, we also have tests, and that needs to be worked out a little bit better.'

Post-tutorial questionnaire

While the post-tutorial questionnaire required responses to eight items, the responses to the impact on listening, helping and social skills were seemingly misunderstood by participants. Fig.1 represents the students' perceptions of how participating in this tutorial programme impacted on the remaining five items. More than 50% of the tutors agreed that the programme had a positive impact on their communication, ability to transfer skills, and their own understanding of techniques and underlying theory. Only two

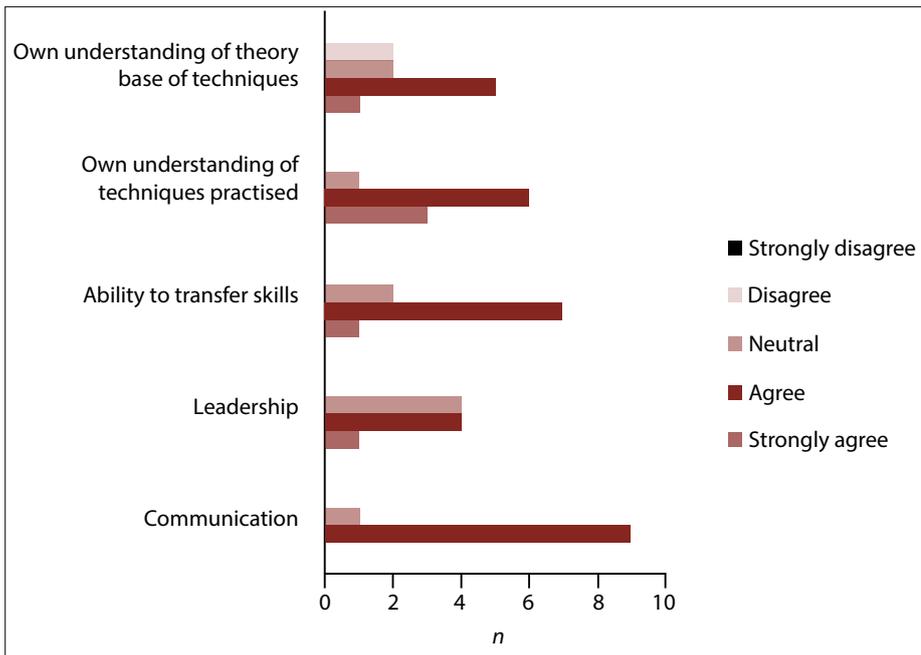


Fig. 1. Student perceptions of the impact on their own learning.

Table 1. Tutor comments supporting their rated perception of the impact of the near-peer tutorial programme

Communication

- 'I feel more comfortable to talk to strangers.' [Translated]
- 'I had to find new ways to explain concepts in ways that others understand it.'
- 'I learned how to break things down to basics, to the how and why.' [Translated]

Leadership

- 'They had respect for me and I could just facilitate.' [Translated]
- 'We had to take charge.'
- 'Learned to take charge in the class and give guidance; it's rather intimidating when everyone is looking at you at the same time.' [Translated]

Ability to transfer skills

- 'It was easy to transfer techniques, especially through demonstration.' [Translated]
- 'That you have to explain and demonstrate something and the person has to show you themselves, then you know if they understood.' [Translated]

Own understanding of techniques

- 'If you can explain something to someone, it means that you understand the concept yourself.' [Translated]
- 'Was able to better my clinical evaluation and treatment techniques due to repetition ... and explaining to others.'
- 'Was able to ... [and] learn ... from the students about better positions, etc.'

Own understanding of theory

- 'Yes; because we had to explain some of the theory behind the techniques to the students if they ask.'
- 'It resulted in me having to read up on the theory again.' [Translated]

tutors felt that the programme did not improve their own theoretical basis of techniques. Tutors provided comments to support their rating of each item (Table 1).

Discussion

The aim of the physiotherapy programme at SU is to prepare students to cope with entry into community service. As health promotion and prevention are

key aspects of primary healthcare, it is expected of healthcare professionals to spend much of their time in clinical practice as teachers. In addressing the needs of the division and those of the second-year physiotherapy students at SU, this near-peer tutorial programme created a space in which students as tutors were able to grow in confidence and increase not only their own clinical skills but their competency as teachers as well. The process by which tutors have benefited from the tutorial programme can be mapped using an adapted competency framework such as the one proposed by Taylor.^[12]

Using this framework,^[12] once the tutors had begun to prepare for the tutorials through training and using the manual, students moved from a phase of *unconscious incompetence* to one of *conscious incompetence*, where they realised that although they were able to adapt their skills in facilitation from a student-patient relationship to a tutor-tutee relationship, there were specific techniques and theoretical concepts that they needed to revise. The revision of techniques and theory, added to the experience they gained in the early tutorial sessions, allowed them to reach a phase of *conscious competence*, in which they realised that they did have the skills necessary to facilitate and explain the basic concepts and relationships needed to their junior peers. The ultimate aim would be for these students to become *unconsciously competent* in their teaching skills. This, however, was not yet achieved by the tutors. From the literature it seems plausible, however, that it would be a natural progression for the students to reach this stage as they continue into clinical practice.

The *reflective competence* phase,^[12] though not explicit within the process, was apparent during their participation in the study data collection phase and participation in the FGD. It demonstrated that they were able to comment and reflect on their own strengths and weaknesses as facilitators of learning.

Limitations

The study is limited to the experiences of student tutors within our division only. Concerns expressed prior to the start of the programme were shared by the full cohort. The perceived benefits of PAL on their own learning and development did, however, vary among the students and warrant further investigation.

Conclusion

Functioning as near-peer tutors had a positive influence on physiotherapy students' perceptions

of their own learning, both in terms of own clinical technique competency, and as teachers/facilitators of learning. Further work is needed to determine whether peer-assisted learning helps graduates transition effectively between clinician and health advocator/teacher.

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References

1. Topping KJ, Ehly SW. Peer assisted learning: A framework for consultation. *Journal of Educational and Psychological Consultation* 2001;12(2):113-132. [http://dx.doi.org/10.1207/s1532768xjepc1202_03]
2. Secomb J. A systematic review of peer teaching and learning in clinical education. *Journal of Clinical Nursing* 2008;17(6):703-716. [http://dx.doi.org/10.1111/j.1365-2702.2007.01954.x]
3. Lockspeiser TM, O'Sullivan P, Teherani A, Muller J. Understanding the experience of being taught by peers: The value of social and cognitive congruence. *Advances in Health Sciences Education* 2008;13(3):361-372. [http://dx.doi.org/10.1007/s10459-006-9049-8]
4. Bulte C, Betts A, Garner K, Durning S. Student teaching: Views of student near-peer teachers and learners. *Medical Teacher* 2007;29(6):583-590. [http://dx.doi.org/10.1080/01421590701583824]
5. Ten Cate O, Durning S. Peer teaching in medical education: Twelve reasons to move from theory to practice. *Medical Teacher* 2007;29(6):591-599. [http://dx.doi.org/10.1080/01421590701606799]
6. Haist SA, Wilson JF, Brigham NL, Fosson SE, Blue AV. Comparing fourth-year medical students with faculty in the teaching of physical examination skills to first-year students. *Acad Med* 1998;73(2):198-200. [http://dx.doi.org/10.1097/00001888-199802000-00020]
7. Tolsgaard MG, Gustafsson A, Rasmussen MB, Høiby P, Müller CG, Ringsted C. Student teachers can be as good as associate professors in teaching clinical skills. *Medical Teacher* 2007;29(6):553-557. [http://dx.doi.org/10.1080/01421590701682550]
8. Burch VC. Medical education in South Africa: assessment practices in a developing country. Erasmus University Rotterdam 2007. <http://hdl.handle.net/1765/10152> (accessed August 2014).
9. Wamsley MA, Julian KA, Wipf JE. A literature review of 'resident-as-teacher' curricula. *J Gen Intern Med* 2004;19(5 Pt 2):574-581. [http://dx.doi.org/10.1111/j.1525-1497.2004.30116.x]
10. Haber RJ, Bardach NS, Vedanthan R, Gillum LA, Haber LA, Dhaliwal GS. Preparing fourth-year medical students to teach during internship. *J Gen Intern Med* 2006;21(5):518-520. [http://dx.doi.org/10.1111/j.1525-1497.2006.00441.x]
11. Frank JR, Snell L. The Draft CanMEDS 2015 Physician Competency Framework http://www.royalcollege.ca/portal/page/portal/rc/common/documents/canmeds/framework/framework_series_1_e.pdf (accessed August 2014).
12. Taylor W. The Conscious Competence Learning Model 2007. <http://www.businessballs.com/consciouscompetencelearningmodel.htm> (accessed January 2014).