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ABSTRACT

Peer Assisted Study Sessions (PASS) were introduced as an optional learning experience in a Bachelor of Physiotherapy programme. The aim of this study was to evaluate the use of PASS from the student perspective. Eight third year physiotherapy students who had participated in PASS during their second year of training attended a focus group, at which they provided their perspectives of these PASS sessions. A transcription of the focus group outcomes was analysed qualitatively using the general inductive approach, by two independent reviewers.

Overall, the students' perceptions of PASS were positive for their learning, showing that PASS is a useful and effective adjunct to formal teaching for this group of students. Three main themes were identified: learning environment, revision and mastery of skills and clinical application. This study suggests that PASS could play a useful role in an undergraduate physiotherapy programme.

INTRODUCTION

Peer assisted learning has been defined as the 'development of knowledge and skill through active help and support among status equals and matched companions' (Topping, 2005, p. 631). Peer assisted learning enables students to provide learning opportunities to other students (Field, Burke, McAllister, and Lloyd, 2007). It may be an effective method for developing skills that require manual dexterity and clinical reasoning, as well as consolidating theoretical knowledge required for the physiotherapy profession (Asghar, 2010).

Previous qualitative studies have documented several advantages of peer assisted learning, such as the perception that student leaders were more approachable and familiar with course content than faculty members (Field, et al., 2007; Hammond, Bithell, Jones and Bidgood, 2010). Ginsburg-Block, Rohrbeck and Fantuzzo (2006) concluded that there were positive effects on social, self-concept and behavioural outcomes for participants of peer assisted learning. Medical students also perceived themselves as having increased confidence following a course of the peer assisted learning sessions (Field, et al., 2007). Field et al. (2007) found 92% of students who participated in peer assisted learning sessions felt this opportunity to be helpful to their learning.

Peer Assisted Study Sessions (PASS) is the name adopted by Australasian universities for the particular form of peer assisted learning that originated in the United States of America in the 1970s as Supplemental Instruction (SI; e.g. Hensen, Shelley and Tables, 2003; Martin and Arendale, 1993; Martin and Hurley, 2005). The defining characteristics are that PASS sessions are led by students who are close in experience to the student groups they facilitate (so they can still remember what the learning was like), that attendance is voluntary, and that the sessions are interactive and facilitative rather than involving re-teaching or tutoring. Typically, the weekly sessions review material covered in lectures, tutorials and/or laboratory sessions of the previous week, but also focus on developing students' independent learning skills. Leaders in PASS

programmes are trained in facilitation and in understanding students' learning experiences.

The effectiveness of SI/PASS on student achievement and other student benefits, has been reported in many studies (Arendale, 1993; Blanc, DeBuhr, and Martin, 1983; Pascarella and Terenzini, 2005). The New Zealand Ministry of Education, in a best evidence synthesis report (Prebble et al., 2004), identified SI type programmes as one of the student support interventions that has been proven to work.

A pilot PASS programme was started in the University of Otago in 2008. This was part of several peer assisted learning initiatives aimed at strategically enhancing students' experiences in a sustainable way (van der Meer & Scott, 2008). Since then there has been an ongoing focus on enhancing training (van der Meer & Scott, 2009) and rolling out the programme in more units of study.

A variation of PASS was introduced in the university's School of Physiotherapy in 2009. The variation to typical PASS sessions related mainly to the content of the sessions: whereas typical PASS sessions review course material, the PASS sessions in this School also focus on practising skills. This variation is reflective of the particular nature of the physiotherapy programme: the four year Bachelor of Physiotherapy degree begins with one year of a generic Health Science programme, followed by two years focusing on acquiring the theoretical knowledge and practical skills required by physiotherapists. It is the practising of skills that was identified as an area in which students needed more support. The final year involves clinical practice and the completion of a research project.

PASS has been used as an adjunct to the traditional one-tutor-multiple-students style of teaching. The main objectives for PASS are to encourage self-directed learning and provide opportunities to practise the manual handling skills acquired during formal teaching. These sessions involve weekly one hour group study sessions held within the School of Physiotherapy in the early evening. Each group consists of two third-year student leaders supporting six second-year students. The leaders were invited to apply for the position following a briefing given by the senior lecturer. Students who expressed interest were selected for the leader roles based on their previous academic achievement. The leaders attended a three-hour workshop, presented by the university's Student Learning Centre, on peer assisted learning and understanding students' experiences. All second-year students were given the opportunity to participate in PASS from the beginning of the academic year: of 109 students enrolled for the second year subjects, 54 (49.5%) chose to participate in PASS in 2010.

Interested students were randomly allocated to one of ten groups, which remained consistent in membership throughout the whole semester.. On two different days each week, five of these groups met in one laboratory,. Although the groups worked independently of each other, communication between them was possible and they were able to share equipment (when needed), and discuss issues. The structure of each session was decided by the students in each group, who suggested questions and techniques from the previous week's formal teaching schedule to be covered during the session. Although this predominantly involved demonstration and practise of manual skills, theory could also be discussed. Feedback was provided by the leaders and other members of the group.

Although peer assisted learning programmes in medical education programmes have been extensively reported (e.g. Burke, Fayaz, Graham, Matthew and Field, 2007; Field et al., 2007; Knobe et al., 2010), fewer reports relate specifically to physiotherapy (Hammond, et al., 2010; Perkins, Hulme, & Bion, 2002). The aim of this qualitative study was thus to contribute to this field of research by reporting on the usefulness of PASS in a physiotherapy course from the students' perspective.

METHODS

Our research was approved by the University of Otago School of Physiotherapy Human Ethics Committee (reference SoP/EC/11/01-v2). All participants of PASS involved as Year Two students in 2010 were invited to participate in a focus group. After providing written informed consent, a focus group discussion was held with the participants, led by a senior lecturer from the School of Physiotherapy. The focus group discussion was guided, but not limited, by seven questions (Table 1). The discussion lasted 34 minutes. It was recorded digitally, and the audio recording transcribed by an independent professional, experienced in audio transcription, with subsequent validation by four of the authors.

Table 1. Interview topic guide for Focus Group

In which way have you found the sessions helpful?

- a) a) Possible prompts: in terms of:
- i. Practical skills?
 - ii. Theoretical knowledge?
 - iii. Preparation for practice tests/examinations?
 - iv. Preparation for clinical practice?
 - v. Any other aspects?

How did your group organise the content of the sessions?

Did the participants of your group all contribute; how?

Were the leaders helpful in any way, such as facilitating discussions, demonstration of practical skills, application for clinical practice, providing feedback.

In which way did you find that the sessions did **not** meet your expectations?

How could these be improved?

Overall, how helpful were the sessions for your learning experience in year 2?

Data analysis

The transcript was analysed using the general inductive approach (Thomas, 2008): it was read thoroughly multiple times and inductively coded by two of the authors who had no previous exposure to PASS. Parts of the text were coded into multiple categories, and some text was not coded at all as it was deemed irrelevant to the aim of this research. Following further revision and subsequent readings of the transcript, the reviewers independently refined the initial categories until the main categories were determined. These categories were then checked by inter-coding, auditing and discussion between two of the authors (KJ and AR). Following these consistency checks, three themes emerged: these themes were then cross-referenced back to the original data to verify that they accurately represented participants' accounts.

RESULTS

Of the 54 Year Three students who attended PASS as second-year physiotherapy students, eight attended the focus group (one male, seven females, mean age 21, range 20 to 24 years), four of whom were current PASS leaders.

From the transcription analysis, three main themes emerged: learning environment, revision and mastery of skills, and clinical application. Learning environment refers to both the physical and social elements within the PASS setting. Revision and mastery of skills refers to laboratory and lecture material covered in PASS. Clinical application

refers to how theoretical knowledge and laboratory-based learning could be applied to clinical practice.

Learning environment

Overall, comments about the learning environment in PASS were positive. Students believed there was a good atmosphere during the sessions:

“There’s actually a really good atmosphere in the room during PASS with all the different groups.” (Student 2)

“There is a really fun atmosphere and if the teacher was in there you would probably go back to that teaching/learning environment. It is that, but it’s a fun learning environment.” (Student 3)

Not having faculty staff involved directly with the sessions appeared beneficial to learning:

“I think not having staff is actually beneficial because ... third year [students] even get in to the habit of looking up to a superior if they get stuck ... it sort of puts the responsibility and the thinking more on the second and third years rather than ... just having someone there who already knows, you won’t think about it as much.” (Student 5)

The importance of the learning environment was highlighted by the students. Some individuals felt more confident asking peer leaders questions in the PASS setting, as opposed to staff members:

“I found it helpful ... the fact that you can ask for anything, like in class you might hesitate to ask the lecturer something and then with PASS ... you feel more comfortable to ask them [the tutors] so you get more valuable information.” (Student 3)

Students perceived their leaders to be competent in facilitating the PASS sessions:

“They [the leaders] made us do it ... and if we did it wrong then they would ... help us with that.” (Student 3)

Students found that the PASS environment was useful for clarifying things they did not understand from the formal teaching sessions:

“I think it’s just good to be in a group setting as well because ... you might have misunderstood something in the lab and think about it wrong, whereas if you are in a group you’re more likely to be corrected.” (Student 4)

One student felt it was helpful having two leaders, each with differing experiences to learn from:

“I thought my two PASS leaders ... worked off each other and ... if one person said something it would trigger another person’s thought ... they’d collaborate the idea and then they’d feed that to you instead of just ... one dominating.” (Student 8)

However, another found that one leader was more dominant than the other:

“One of my leaders dominated ... and one of them just sat back and didn’t really say much ... it didn’t really affect our learning but we always heard one opinion more than the other.” (Student 3)

Many enjoyed the voluntary commitment that PASS involved:

“If you volunteer for something, you’re more likely to do it ... if it’s your own choice to go to it, it helps you commit, it’s beneficial.” (Student 8)

The students also appeared to have enjoyed the self-directed nature of the sessions. When asked whether they thought PASS should be structured or continue to be self-directed in the future, there was a unanimous “self-directed” response from the group.

Revision and mastery of skills

As an adjunct to lectures, laboratories and clinical placements, PASS gave students an additional learning opportunity during which to practise their manual handling skills and to modify their techniques. Students indicated that having extra time for revision was highly beneficial:

“Cause everyone’s gotta be different ... that’s the thing with physio ... there is no specific way of doing something, it’s what’s best for the patient and what suits you ... so, it’s developing your own technique from a whole range of different perspectives.” (Student 3)

“You don’t get a lot of time in class to practise specific techniques ... and just having that bit more practise with that supervision [by the leaders] really helps to make sure you are doing it properly.” (Student 7)

“I think it was really helpful to have an hour every week throughout the whole year just dedicated to revising practical work.” (Student 2)

Not only did PASS provide additional time in which to practise skills and techniques outside of formalised teaching, it also helped students prepare for formal examinations:

“They [the leaders] actually made us stand up and do it which is something that we don’t do in class ... our PASS tutors often make us do it right from the beginning ... give us a scenario.. pretend I’m an examiner, this is your patient, this is a practical situation.” (Student 2)

“They made up some exam questions for us as well, so we actually knew what kind of situations [we] were going to be put in so we knew what to practise.” (Student 4)

Students also found PASS helpful towards revision of other subjects:

“I think a positive I got out from it is I didn’t actually expect that I would get so much help in not just 254 [Physiotherapy Rehabilitation Science I], they gave us heaps of advice in physiology and pharmacy and anatomy as well, so that was really good.” (Student 2)

Clinical application

The ability to utilize one’s knowledge and apply it to clinical practise is an important characteristic of a health professional. Students found their PASS leaders could elaborate on their own experiences, giving a clearer insight to clinical placement:

“They were good at explaining things because of what they have seen in clinical practice.” (Student 4)

“Yes, it was quite good for our clinical as well ... they [the leaders] would ask us what do you have next and ... let you know what to expect, so I think that is...an insight that we get as part of participating in PASS.” (Student 2)

Another student compared PASS to being in a clinical setting:

“A lot of the time when you’re placed in a clinical situation ... you don’t have a textbook there to be, like, oh, what does this do and you’ve got to think on your feet, so getting that ... problem solving, like, thinking about the situation is probably a good way.” (Student 8)

Students felt that PASS aided the development of their clinical reasoning and problem solving skills in preparation for clinical placement:

“When we’re doing practicals or practising something they’d [the leaders] keep asking us questions, like what are we testing, how are we testing ... it’s helping you to kind of get more clinical reasoning behind you.” (Student 1)

One student found PASS useful in revising techniques and with improving confidence going into their next clinical placement:

“You just feel more comfortable doing the handling on the patient. It just increases your confidence which is key in the clinical placement part.” (Student 8)

It was also noted that PASS helped facilitate communication skills:

“Just to elaborate on how we would talk to the patient, I think that’s really important to practise because in class you are constantly using the physio jargon ... to get out of that sort of mind frame ... It is actually quite difficult and ... you need practise and it can be quite hard under stressful situations. So that was good to practise in PASS.” (Student 7)

DISCUSSION

This study has evaluated the usefulness of PASS from the perspective of students. Learning environment, revision and mastery of skills, and clinical application were identified as the main themes for outcomes, and improved confidence was a common denominator throughout the students’ feedback.

Learning environment

A positive learning environment is perceived to be an essential component of effective learning (Glynn, MacFarlane, Kelly, Cantillon and Murphy, 2006). Positive perceptions of a learning environment have been shown to directly affect academic achievement and qualitative learning outcomes of university students (Lizzio, Wilson and Simons, 2002). In other studies, peer assisted learning programmes were found to provide a safe and supportive environment for students (Lekkas et al., 2007). Our results confirm these findings as students portrayed positive feelings regarding the social environment of PASS.

As did Field et al. (2007), this study found students saw the PASS leaders as more approachable than lecturers, which made it more comfortable to ask questions. In addition, students felt that having no staff present at the sessions, and their self-directed style, was beneficial to learning. This environment enables the development of self-directed learning skills, a key objective of PASS.

Feedback is a beneficial aspect of peer assisted learning, not only feedback from the leaders but also from the students themselves. This provides immediate information for the student regarding their ability to perform a specific manual technique. Asghar (2010) found that feedback from more than one person is helpful for students’ learning: students appreciate this because it validates their knowledge and improves their self-confidence. Our particular multiple-leader-multiple-student model of PASS received mixed responses. Some students found it beneficial, as it allowed them to gain insights from

differing opinions. However, other students found one leader dominated more than the other. Overall, students perceived learning as a group to be beneficial. Learning in a group facilitates students' ability to work together, which is a key part of becoming a health professional (Henning, Weidner and Marty, 2008). However, we recognise that this group style of learning does not suit all students.

Revision and mastery of skills

Undergraduate physiotherapists are required to become competent with a broad range of manual handling skills and techniques. In order to meet these competencies, students attend lectures, laboratories and clinical placements. PASS enables students to practise these skills outside of formalised teaching. Students alluded to this important point throughout the focus group.

This study's findings confirm the benefits of peer assisted learning identified by Escovitz (1990). Our students reported improved self-confidence, development and reinforcement of previously learned skills and techniques. The students also perceived PASS helped with preparation for practical examinations, which is important as formal examinations are a way of measuring progress and skill acquisition in a subject.

Students reported not having enough time in formal laboratory classes to practise techniques learned in class. This is especially significant to kinaesthetic learners who typically learn through experience and practice, by carrying out a physical activity rather than just listening to a lecture or watching a demonstration (Murphy, Gray, Sorin, & Bogert, 2004). As PASS allows more contact time, students felt that they were able to achieve additional hands-on practise and gain confidence that they were practising the techniques correctly.

Clinical Application

Physiotherapy practise is based around contextualising knowledge and applying it to patients in a clinical situation. This study demonstrates that PASS provides an additional opportunity for physiotherapy students to achieve this. In addition, with the diverse range of individuals in a community, practitioners know that techniques constantly have to be modified and adapted to the needs of the individual patient or client. It appeared that the PASS leaders helped students with this understanding by providing case scenarios, where one student acted as the patient and another student as the physiotherapist. PASS also gave students time to practise communication skills through this role-playing. Asghar (2010) similarly found that the use of case studies for physiotherapy students in peer assisted learning sessions aided in the development of clinical reasoning and the ability to adapt techniques to each individual, and both Burke, et al., (2007) and Lekkas, et al., (2007) also found that peer assisted learning assisted both medical and physiotherapy students in improving these skills. By developing these skills in a non-stressful situation, students may improve their confidence for treating patients in clinical placements. In addition, it was evident that PASS covered a broad range of subject material, enabling students to integrate multiple subject areas from their undergraduate physiotherapy training into preparation for patient treatment.

General aspects

In this study, the students' feedback and comments in the focus group discussion reflected positive outcomes from participation in the PASS programme. However, Lekkas et al. (2007) found two typical disadvantages in peer learning programmes: first, more dominant students may take over the sessions and, second, with no regulation of the content of the sessions, there is the potential for incorrect information to be conveyed. While training for peer assisted learning leaders can help them create session structures that promote equal participation of group members (Topping, 2005), in our context PASS leaders typically do not re-teach content material: although discussion of content material does occur, this is not formal teaching. From a social-constructivist perspective (a theoretical framework that partly informs PASS),

any 'cognitive conflict' (Dolmans, Wolfhagen, Van Der Vleuten and Wijnen, 2001) caused by discussion and disagreement can contribute to learning.

As our students had a positive experience of PASS in the physiotherapy undergraduate programme, we postulate that this may make them more open to peer assisted learning in clinical practise. This is a valuable additional outcome, as it is important for peer assisted learning to continue after graduation into clinical practise, as a contribution to lifelong learning, as identified in Competency 9.3 set by The Physiotherapy Board of New Zealand (2009, p.21), namely to "demonstrate accountability to the public and profession" that is, to "promote and participate in lifelong learning".

Limitations of this study

Given the small number of participants in this study, we recognise some limitations, and especially the potential for unintended bias. For example, there is the potential for volunteer bias: students who found PASS to be helpful, or who enjoyed the experience, may have been more likely to participate, and we did note that four of the eight focus group participants were active PASS leaders. This study could have been improved by having more than one focus group, which would have represented a larger proportion of the PASS students. The focus group was also facilitated by the senior lecturer who implemented PASS in the School of Physiotherapy, so students may have been reluctant to report negative statements. Despite these limitations, however, we feel confident that the data presented above adds to our understanding of PASS in the context of teaching physiotherapy.

CONCLUSION

Overall, the students' perceptions of PASS were that it was a positive experience that was beneficial to their learning by creating a comfortable learning environment, facilitating revision and mastery of skills, and improving clinical application. We have shown that PASS was a useful and effective adjunct to formal teaching for this group of students, who reported that the sessions improved their confidence in performing manual skills and applying these in clinical practice. This study suggests that PASS could play a useful role in an undergraduate physiotherapy programme.

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