



Peer-assisted teaching: An interventional study



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ABSTRACT

Peer-assisted learning (PAL) as an educational philosophy benefits both the peer-teacher and peer-learner. The changing role of paramedicine towards autonomous and professional practice demands future paramedics to be effective educators. Yet PAL is not formally integrated in undergraduate paramedic programs. We aimed to examine the effects of an educational intervention on students' PAL experiences as peer-teachers. Two one-hour workshops were provided prior to PAL teaching sessions including small group activities, individual reflections, role-plays and material notes. Peer-teachers completed the Teaching Style Survey, which uses a five-point Likert scale to measure participants' perceptions and confidence before and after PAL involvement. Thirty-eight students were involved in an average of 3.7 PAL sessions. The cohort was predominated by males (68.4%) aged ≤ 25 (73.7%). Following PAL, students reported feeling more confident in facilitating tutorial groups ($p = 0.02$). After the PAL project peer-teachers were also more likely to set high standards for their learners ($p = 0.009$). This PAL project yielded important information for the continual development of paramedic education. Although PAL increases students' confidence, the full role of PAL in education remains unexplored. The role of the university in this must also be clearly clarified.

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Introduction

Peer-assisted learning (PAL) is an educational philosophy used in a variety of education settings with several interchangeable terms and definitions. Most commonly PAL is considered a learning activity with mutual benefits both for the peer-teacher and peer-learner (Boud, 2001; Topping, 1996, 2005; Topping and Ehly, 1998). PAL is not a new concept, (Burnside, 1971) and has been used to varying informal degrees in the past, arguably since Aristotle's 'student leaders' (Hickey, 1986). However PAL is now more formally and extensively being used in medicine and anatomy courses, (Evans and Cuffe, 2009) radiology, (Naeger et al., 2013) nursing, (McKenna and French, 2011) physical therapy and athletic training, (Henning et al., 2008) and basic life support skills (Harvey et al., 2012).

PAL has been applied to a wide span of students and educational sectors, ranging from elementary school, (Rohrbeck et al., 2003) to residency programs in surgical skills (Beard et al., 2012). When

considering pedagogy, children both teach and learn from each other. Therefore social interactions are at the centre of development theories by psychologists such as Vygotsky and Piaget (Rohrbeck et al., 2003). Whether these natural interactions can be extrapolated and subsequently capitalised on in andragogy – adult learning – remains to be fully explored, but appears promising. A growing research body suggests students can use fellow students' experiences in addition to their own experience to enhance learning (Roberts, 2010). For example, recent work by (McLelland et al., 2013) found midwifery students were able to effectively teach paramedic students how to care for babies before and after birth, while (Burgess et al., 2013) examined senior medical students capacity to formally examine junior students OSCE performance.

Given the many names and facets of PAL, determining what PAL is not might be more appropriate. The terminology used varies greatly (Yu et al., 2011). Most common is peer-assisted learning, but alternatives used include peer-led teaching (Batchelder et al., 2010) or training (Hudson and Tonkin, 2008), and peer-tutoring (Nestel and Kidd, 2005) or –teaching (Rengier et al., 2010). These terms generally refer to those of the same age or learning levels. In contrast, the term near-peer (NP), or supplemental instructions (SI) (Arendale, 1997) is used to refer to participants several years apart (Du et al., 2013; Evans and Cuffe, 2009). Intuitively, it is easier for NPs compared to peers on the same level to pass on knowledge.

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Regardless of terminology, the underpinning philosophy is grounded in ‘students teaching students’. In this paper we define a peer as a student enrolled in the same course, but at a different year level.

PAL has benefits for both participants. For the peer-teacher, PAL has been associated with improved cognitive development and psychomotor skills in clinical education, (Secomb, 2008) increased levels of self-confidence, (McKenna and French, 2011) and higher academic achievement (DeClute and Ladyshevsky, 1993; Rohrbeck et al., 2003 Williams and Fowler, 2014). PAL also reinforces material and ensures deeper learning, develops teaching skills, and is reported to be an enjoyable experience (Evans and Cuffe, 2009). For the peer-learner the most frequently noted benefit relates to increased confidence during clinical placement (Secomb, 2008). This might in turn explain the increased motivation to learn in students involved with PAL (Secomb, 2008). Furthermore, when McKenna and French (2011) studied 112 first year nursing students, the majority reported feeling more comfortable when learning from third year students. This might explain why PAL is more likely to unmask areas of uncertainties (Christiansen and Bell, 2010). Within a traditional teacher-student relationship, time constraints and ‘fear-of-asking’ might restrict these opportunities, thereby supporting the old adage “teaching without learning is just talking”. A last noted benefit lies in the increased number of facilitators as utilising peers as teachers increases the total number of learning facilitators (Evans and Cuffe, 2009).

However PAL is not without its shortcomings, and the effectiveness may be undermined by incompatibilities between students’ personalities, educational level or knowledge and the PAL tenets (Secomb, 2008). Some students reported feeling disadvantaged by the gap between the different groups, (McKenna and French, 2011) due to the varying degrees of peer-teachers’ skills, and the inconsistent amount of useful tips being passed on. Peer-students have reported concerns that PAL-teachers do not always know the answer (Evans and Cuffe, 2009).

The formal and informal integration of “teaching” is being increasingly incorporated into health-related courses such as medicine, (Yu et al., 2011) nursing, (McKenna and French, 2011) and paramedics (Williams et al., 2014). Such incorporation enables students to understand and appreciate the fact that part of the role of a health-care practitioner is indeed teaching (McKenna and French, 2011). The changing role of the paramedic, towards a more autonomous role, and active attempts towards becoming a recognised profession both demand similar trends in the education and training of paramedics. The future paramedic must therefore include being an effective educator; they must act as an educator for their patients, the students they train on a daily basis, and other health and emergency professionals. Despite this importance, no education on how to educate others is formally part of paramedic programs in Australia. While a number of studies have examined PAL in paramedic curricula in Australia; (Williams et al., 2014) these have been ad hoc, voluntary and not formally part of the curricula. The paper by Williams et al. (2014) examined final year paramedic students (2011–2012) and their experiences of PAL in their paramedic degree program at Monash University. Results across both years found that peer-teachers felt PAL improved their knowledge and skills and provided an important learning opportunity before entering the paramedic workforce. However, results also found that providing some educational background or modified “train-the-trainer” would be an important addition to the PAL program. Therefore the objective of this study was to examine the effects of an educational interventional on students’ PAL experiences as peer teachers.

Method

Design

This study employed a before and after study repeated measures design.

Participants

Final year paramedic students enrolled in the Bachelor Emergency Health (Paramedic) at Monash University in Australia were eligible to participate. On average this cohort is usually made up of two-thirds female students with an average of 24 years of age. Inclusion criteria for the study were being enrolled on a full-time basis and consenting to take part in the study. There were no exclusion criteria to enrol in the PAL program.

Intervention

Two one-hour workshops were provided to final year paramedic students involved as peer-teachers during July 2013 prior to PAL teaching sessions. The broad aim of these workshops was to provide additional skills and understanding of facilitating small group tutorial sessions. Workshops combined small group activities, individual reflections and role-plays. Participant notes were also generated and provided to each participant. These two sessions were based on key facilitation principles from the well-established Peer Assisted Study Sessions (PASS). The PASS is a nationally based program (see: <http://www.uow.edu.au/student/services/pass/index.html>) with a strong focus on training to equip their facilitation leaders who assist with units of study at their respective university. The ability to be able to facilitate and redirect students’ questions is also a core part of teaching and learning in the PAL program. The desired outcomes for peer-teachers during the two workshops were:

- To gain an understanding of different learning styles and relate this to improved teaching
- To recognise different types of students and groups, and develop strategies for different scenarios
- To develop an understanding of the difference between teaching and facilitation, and apply techniques for redirection
- To understand lesson planning and be able to create a lesson plan

Instrumentation

To measure participants’ perceptions of peer-teaching and their confidence at facilitating small teaching groups the Teaching Style Survey (TSS) developed in the United States of America (Grasha and Riechmann-Hruska, 1996) was administered to peer-teachers. The TSS is uses a five-point Likert Scale response to items. While the original TSS includes 40 items in total for the purposes of this study only 18 items were used given their relevancy to our study aims. A number of other questions using a five and six-point Likert Scale were also included on the demographic form including: ‘How would you rate your public speaking ability’, ‘How would you rate your teaching ability?’, ‘Do you feel confident facilitating tutorial groups?’

Procedures

Students were recruited by a non-teaching staff member to participate in the PAL program during week one, semester two,

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