

*Innovative Teaching
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Students' experience and evaluation of peer-to-peer learning innovation

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Abstract

The "Study Buddy Support" (SBS) scheme was first employed for pathology students during the second semester of 2013 for the medical radiation science undergraduate program. Following the first summative assessment (FSA), students deemed "at risk" of failing (buddies) (n = 23) and high-achieving students (buddy leaders, BLs) (n = 6) from the same year level were invited to participate in the scheme. Seeking to provide students with supplementary learning and strategies, participating buddies (n = 9) and BLs (n = 2) followed the study plan given by the course coordinator to revise all the course topics in order to prepare for the final examination. Final examination results for participating "at risk" students showed a 28.2% improvement in comparison to an 8% improvement for the non-participants.

Qualitatively, the SBS scheme provided mutual benefits for all involved, both buddies and BLs. The buddies reported greater confidence and interest in the course material. Similarly, the consolidation of knowledge, development of networking and leadership skills were considered highly constructive by the BLs. In the future, offering SBS sessions via virtual classrooms would give students flexibility to engage in this supportive peer-based scheme in a non-threatening environment.

Keywords: peer to peer learning; student evaluation; medical radiation science; learning innovation; at risk; pathology course; undergraduate students.

Introduction

Numerous types of peer coaching have been identified: one-to-one or group, coaches of the same level or higher and general or targeted (Andrews & Clark, 2011). A peer-to-peer supplementary learning initiative, called the Study Buddy Support (SBS) scheme, is offered in the pathology for medical radiation course for undergraduate medical

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students deemed “at risk”. This peer-to-peer learning format facilitates improvements in learning outcomes and provides: a) greater student ownership of learning and b) a non-intimidating social interaction context that supports student’s consolidation of knowledge (Colvin, 2007; Thalluri, O’Flaherty, & Shepherd, 2014). This paper evaluates the experience of the SBS buddy leaders (BLs) and examines the comparative learning outcomes for students who participated and those who did not.

Innovation

In the SBS scheme, two groups of students are drawn from the same class and invited to participate. The two groups are identified as “at risk” students (buddies) with first summative assessment (FSA) results less than 55% and high-achieving students (buddy leaders, BLs) by FSA result. Students participating as buddies are matched with BLs from their class for group learning sessions. BLs are provided with a peer-support training booklet focusing on effective training and learning methods for a small group of students. Leading up to the final examination, weekly two-hour sessions covering the entire course content (worth 60% of total assessment) are structured by the course coordinator (CC) to run over 7 weeks. Both the FSA, covering the first three topics, and the final examination, covering all 10 topics, are multiple choice.

For this study, 23 students from a class of 152 (15%) were deemed “at risk” and invited to participate; nine accepted. Six students attaining a distinction/high distinction were invited to be BLs; two accepted. Participation in the SBS scheme was voluntary and incurred no additional costs; however, once students had agreed to participate, they were expected to attend all weekly sessions.

The CC provided the same study plan to all students deemed “at risk” of failing, irrespective of participation in the SBS scheme. As a group, buddies and BLs were expected to review the study plan course content. In the SBS sessions, buddies were also encouraged to discuss concepts they were finding difficult to understand.

Displaying initiative and involvement, students rapidly employed social media, developing a dedicated group page where buddies and BLs could share resources and plan the next session throughout the preceding week.

Evaluation

Comparing participating “at risk” students final exam scores to the scores of those who declined support enabled quantitative analysis. Buddies and BLs were also invited to participate in a survey with an open-ended comment section. The survey preamble explained the purpose of the study and guaranteed confidentiality through anonymity. Ethics approval was obtained from the University of South Australia Human Research Ethics committee.

Outcomes

The SBS sessions provided students with not only an opportunity to ask questions and review lecture materials but also to share their own knowledge, articulate terminology, contextualise pathology and test their own understanding of various concepts. BLs shared their study skills and time management tips as well as their own understanding of concepts.

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Figure 1 shows changes in mean results for participants and non-participants between the FSA and final exam. “At risk” SBS participants reported a 28.2% improvement in their final exam result. The “at risk” non-SBS participants, however, reported an 8% improvement. Quantitatively, improvement of SBS participants in the final assessment was 3.5 times greater than that of non-SBS participants.

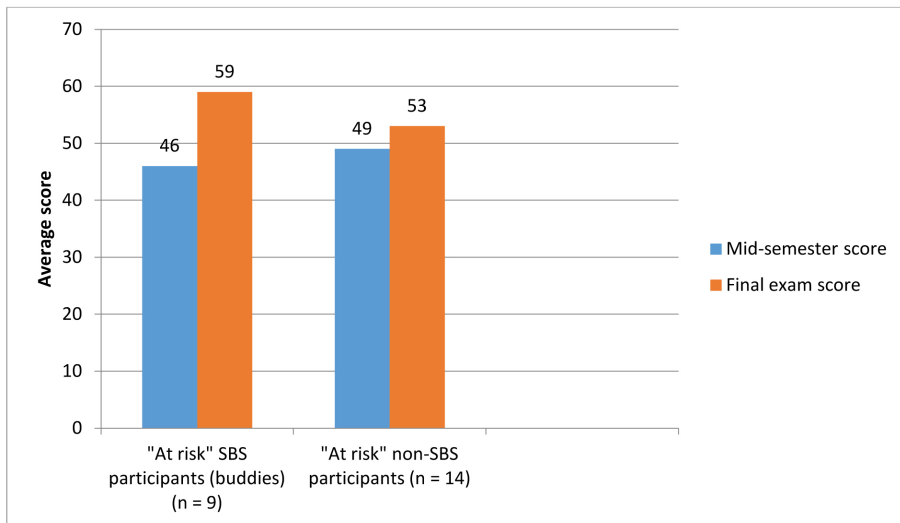


Figure 1. Average change in results from mid-semester to final exam.

Buddies offered some positive and constructive comments:

“I gained confidence, education and tips for the exam.”

“Learnt so much, would love to do this with every subject.”

“Having the opportunity to review the topics.”

“I have changed my learning and study habits which have helped [me] retain information.”

“Being able to go through concepts with no pressure and gaining the understanding on a level that I understand (from a peer) rather than from a teacher is good.”

“Gained a new approach to answering questions.”

“Best thing is learning with those who struggle as well.”

“BL is welcoming and open, non-threatening.”

Conclusion/What is next?

This scheme provides shared benefits for all involved. Teachers provide a time and cost-effective supplementary learning resource. BLs take a leadership role with their peers and provide an interactive review of study material. Buddies experience a peer-based learning initiative, with their final assessment results showing higher mean improvement compared with non-participants.

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There is limited literature describing a direct comparison of student outcomes from peer-based learning. Further research with a larger sample size is required to investigate the differences in learning outcomes for buddies and non-participants, and the factors contributing the buddies' improvement. In the future, offering SBS sessions via virtual classrooms would give students more flexibility to engage in this supportive peer-based scheme.

References

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