Peer-Assisted Learning - Perspectives of a Former Student Tutor

Donovan Castelyn

Associate Lecturer, Department of Taxation, Curtin Law School, Curtin University

Abstract

Peer-Assisted Learning ('PAL') facilitates the reciprocal development of knowledge and skill between students of similar social groupings by disrupting the traditional student-teacher relationship. As an educational strategy, PAL strikes at the core of student collaboration, engagement and satisfaction. Given the ever-expanding digital landscape and advance towards online course delivery, PAL's student-centered approach bridges gaps in course content delivery where conventional teaching practices would prove ineffective. PAL programs are equal parts flexible and adaptable to change, thus providing an attractive accompaniment to orthodox teaching methods. This paper will recollect on the author's experience as a PAL participant and facilitator. The paper will draw on key perspectives gained through these experiences and compare them with the prevailing literature on this topic. This paper will advocate for the use of the student tutor as additional resources to meet the needs of evolving student cohorts and to operate alongside traditional teaching practices. Conclusively, this paper will recommend to educators, particularly those teaching into the discipline of taxation in higher education, an implementation strategy to adopt and utilise PAL more effectively in the classroom and beyond.

1. Introduction

Peer-assisted learning ('PAL'), as a pedagogic framework, originates from the work of Dr Denna Martin in the field of Supplemental Instruction ('SI').[1] Intended as an academic support program, SI promotes the use of regularly scheduled, peer-facilitated, out-of-class tutoring sessions which offer students an opportunity to discuss, process and synthesise course content. Since then, universities have developed and implemented various forms of SI or PAL programs. Great diversity in terminology and definitions of PAL methodologies exists, largely due to the variety of approaches, historical origins, academic disciplines and countries in which PAL has been adopted.[2] A sufficiently inclusive and instructive working definition of PAL may be, "[p]eople from similar social groupings who are not professional teachers helping each other

---

[1] Deanna C Martin and David R Arendale, *Supplemental Instruction: Improving First-Year Student Success in High-Risk Courses. The Freshman Year Experience: Monograph Series Number 7* (National Resource Center for the Freshman Year Experience, University of South Carolina, 1728 College Street, Columbia, SC 29208 ($25)., 1992) <https://eric.ed.gov/?id=ED354839>.

[2] Michael T Ross and Helen S Cameron, 'Peer Assisted Learning: A Planning and Implementation Framework: AMEE Guide No. 30' (2007) 29(6) *Medical Teacher* 527.

to learn and learning themselves by teaching".[3]

Chiefly, the PAL framework encourages students to learn from peers in similar social groupings to the learner.[4] PAL tutors, typically have less expansive knowledge in a particular subject matter compared with professional educators.[5] An emphasis on working collaboratively, with the view to reaching a common goal, is fundamental to the success of a PAL program.

The adoption of any PAL initiative must be balanced against the envisioned educational benefits participants and stakeholders are likely to receive.[6] The efficacy of various forms of PAL has been comprehensively assessed by a myriad of scholarly studies.[7] The majority of studies report on course

---

[3] Keith Topping, 'The Effectiveness of Peer Tutoring in Further and Higher Education: A Typology and Review of the Literature' (1996) 32(3) *Higher Education* 321, 322 <http://link.springer.com/10.1007/BF00138870>; Alexander Olaussen et al, 'Peer-Assisted Learning: Time for Nomenclature Clarification' (2016) 21(1) *Medical Education Online* 30974 <https://doi.org/10.3402/meo.v21.30974>. For the purpose of this article, the term, peer-assisted learning ('PAL') should be widely interpreted to include: "Peer appraisal", "Collaborative learning", "Peer review", "Learning, cells/Student dyads", "Peer assisted study", "Peer assessment", "Proctoring Peer tutoring", "Students helping students", "Peer teaching", "Student teaching assistant schemes', "Peer counseling", "Student teaching/tutoring/mentoring", "Peer assisted writing", "Study advisory schemes", "Peer supported learning" and "Supplemental Instruction". It should however, be noted that these terms are not necessarily wholly interchangeable and some have other non-PAL meanings. Where relevant and instructive, the author will make an attempt to distinguish these concepts.

[4] William Damon and Erin Phelps, 'Critical Distinctions among Three Approaches to Peer Education' (1989) 13(1) *International Journal of Educational Research* 9.

[5] Ibid; Ross and Cameron, above n 2.

[6] Diane Dancer, Kellie Morrison and Murray Smith, *Measuring the Impact of a Peer-Assisted Learning Program on Students' Academic Performance in Econometrics* (Teaching & Learning Unit, Faculty of Economics & Commerce, University of Melbourne, 2007) 23 <http://sro.library.usyd.edu.au:80/handle/10765/53583>.

[7] Brett Williams and Priya Reddy, 'Does Peer-Assisted Learning Improve Academic Performance? A Scoping Review' (2016) 42 *Nurse Education Today* 23 <http://www.sciencedirect.com/science/article/pii/S0260691716300065>; Boud, David, Ruth Cohen and Jane Sampson, *Peer Learning in Higher Education: Learning from and with Each Other* (Routledge, 2014); Susan Edwards and Jane Bone, 'Integrating Peer Assisted Learning and ELearning: Using Innovative Pedagogies to Support Learning and Teaching in Higher Education Settings' (2012) 37 *Australian Journal of Teacher Education*; P Dawson et al, 'On the Effectiveness of Supplemental Instruction: A Systematic Review of Supplemental Instruction and Peer-Assisted Study Sessions Literature between 2001 and 2010' (2014) 84(4) *Review of educational research* 609 <http://dro.deakin.edu.au/view/DU:30070540>; Noreen M Webb, 'Peer Interaction and Learning in Small Groups' (1989) 13(1) *International Journal of Educational Research* 21 <http://www.sciencedirect.com/science/article/pii/0883035589900141>; Topping, above n 3; Maria Helena de Agrela, Gonçalves Jardim, Geraldo Bezerra da Silva Junior and Márcia Lúcia Sousa Dias

design, implementation procedures, participation and levels of student and staff satisfaction.[8] An overwhelming majority of these studies relates to research conducted in the fields of nursing and medicine, or degrees in relation to medicine.[9] A range of studies have explored the relationship between a students' prior academic performance, their engagement in or with PAL initiatives and their final grade.[10] As a corollary, a number of studies exploring the perspective of the student teacher and the inherent benefits and challenges engendered by the facilitation of PAL experiences provides a useful and necessary point of comparison.[11] The studies indicate varying results flowing from investigating these relationships. The general consensus, however, is that when efficiently implemented, PAL initiatives have the potential to enhance student satisfaction, drive educational leadership and improve teaching quality.[12]

Against this background, the article will now explore the literature surrounding PAL pedagogies as they relate to teaching in the discipline of taxation. Given the scope and variation of PAL pedagogies, this article will focus primarily on peer mentoring and peer tutoring. The discussion will consider the investigated impacts of PAL from the perspective of both the student learner and student teacher. Further, the analysis will also canvass any limitations identified through the use of PAL initiatives. Where applicable, the author's own experience will be used for illustrative and comparative emphasis.

2. Literature review

PAL provides a supportive approached toward student learning which is used as a supplement to existing pedagogical practices.[13] The basic concept is that either experienced students mentor or tutors support the incoming students in particular subjects either formally or informally. The use of PAL across a range of higher education settings has been found to significantly increase student understanding of course content, to contribute to cognitive understanding of course material, and to contribute to students' interpersonal and social skills.[14]

Alves, 'Values in Students of Higher Education' (2017) 08(10) *Creative Education* 1682 <http://www.scirp.org/journal/doi.aspx?DOI=10.4236/ce.2017.810114>.

[8] Dancer, Morrison and Smith, above n 6.

[9] Williams and Reddy, above n 7.

[10] Diane Dancer, Kellie Morrison and Garth Tarr, 'Measuring the Effects of Peer Learning on Students' Academic Achievement in First-Year Business Statistics' (2015) 40(10) *Studies in Higher Education* 1808; Dancer, Morrison and Smith, above n 6.

[11] Elspeth Hill, Francesca Liuzzi and James Giles, 'Peer-Assisted Learning from Three Perspectives: Student, Tutor and Co-Ordinator' (2010) 7(4) *The Clinical Teacher* 244.

[12] Bella Ross et al, 'Developing Educational Goals: Insights from a Peer Assisted Teaching Scheme' (2016) 21(4) *International Journal for Academic Development* 350.

[13] Ashar Wadoodi and Joy R Crosby, 'Twelve Tips for Peer-Assisted Learning: A Classic Concept Revisited' (2002) 24(3) *Medical Teacher* 241.

[14] Topping, 'The Effectiveness of Peer Tutoring in Further and Higher Education', above n 3; Keith J Topping, *Peer Assisted Learning: A Practical Guide for Teachers* (Brookline Books, 2001); Keith J

Informed largely by the work of Topping et al (2001),[15] in recent decades, considerable research and literature has been published reporting on the benefits of PAL initiatives for both instructor and participant.[16]

Colvin (2015), cites enhanced student and participant learning, economic savings, and increased social and intellectual maturity as the primary objectives for introducing formal peer learning.[17] Bandura (1977), notes that enhanced learning is evident as occurring on behalf of both the student and instructor as they engage in learning as a communal activity.[18] Astin (1984), suggests that students learn from the modelling that takes place, while the instructor learns from the opportunity to strengthen successful scholastic behaviours i.e. implimentation of adaptive learning pedagogies.[19] Masters and Yelland (2002), argue that modelling is successful due to the scaffolding of the learning process that takes place.[20] Scaffolding has been defined as, "moving learners from their current level or zone of proximal development to a higher level of development".[21] Additionally, formal peer learning has been shown to provide a structured and effective way of fostering relationships between students and instructors, further supporting social and academic development.[22]

Whilst literature concerning the impact of PAL within the discipline of taxation is fairly scarce, independent studies into complementary disciplines such as accounting, business statistics and economics have yielded some important findings concerning the effectiveness and viability of PAL initiatives.[23]

Topping, 'Trends in Peer Learning' (2005) 25(6) *Educational Psychology* 631; Wadoodi and Crosby, above n 13; Ross et al, above n 12.

[15] Topping, *Peer Assisted Learning*, above n 14.

[16] Jonathan Galbraith and Mark Winterbottom, 'Peer-tutoring: What's in It for the Tutor?' (2011) 37(3) *Educational Studies* 321; Michael Parkinson, 'The Effect of Peer Assisted Learning Support (PALS) on Performance in Mathematics and Chemistry' (2009) 46(4) *Innovations in Education and Teaching International* 381; M Lisa Stout and Amelia J McDaniel, 'Benefits to Supplemental Instruction Leaders' (2006) 2006(106) *New Directions for Teaching and Learning* 55.

[17] Janet W Colvin, 'Peer Mentoring and Tutoring in Higher Education' in *Exploring Learning & Teaching in Higher Education* (Springer, Berlin, Heidelberg, 2015) 207, 209 <https://link.springer.com/chapter/10.1007/978-3-642-55352-3_9>.

[18] Albert Bandura, *Social Learning Theory* (Prentice Hall, 1977).

[19] Alexander W Astin, 'Student Involvement: A Developmental Theory for Higher Education' (1984) 25(4) *Journal of College Student Personnel* 297.

[20] Jennifer Masters and Nicola Yelland, 'Teacher Scaffolding: An Exploration of Exemplary Practice' (2002) 7(4) *Education and Information Technologies* 313.

[21] Colvin, above n 17, 209; Masters and Yelland, above n 20.

[22] Keith Topping and Stewart Ehly, *Peer-Assisted Learning* (Lawrence Erlbaum Associates, Inc, 1998); Colvin, above n 17.

[23] Dancer, Morrison and Smith, above n 6; Dancer, Morrison and Tarr, above n 10; Adriel Sudhakar, Jonathan Tyler and James Wakefield, 'Enhancing Student Experience and Performance through Peer-

Sudhakar, Tyler and Wakefield (2016), Dancer et al (2016) and Xiang (2016), mirror the general benefits associated with peer learning methodologies as they relate to complementary disciplines and recognise the potential for effective implementation of PAL initiatives to enhance student satisfaction, performance and learning.[24] Notably, a study conducted by Kenny et al (2015), exploring the efficacy of team-based learning ('TBL')[25] within the context of undergraduate taxation tutorials noted that students who engaged in the program, displayed significantly higher levels of student preparation, engagement, participation, attendance and satisfaction. Substantial benefits were also found for university law teachers in accounting schools.[26]

Two of the most common traditional peer situations that involve students helping other students in PAL environments are peer tutoring and peer mentoring. Equally, in both these situations, studies have identified prevalent limitations to the effectiveness of PAL.[27] Topping (2005), provides a helpful distinction between the concepts of "tutoring" and "mentoring" stating:

> "Peer tutoring (PT) is characterised by specific role-taking as tutor or tutee, with high focus on curriculum content and usually also on clear procedures for interaction, in which participants receive generic and/or specific training… Mentoring can be defined as an encouraging and supportive one-to-one relationship with a more experienced worker (who is not a line manager) in a joint area of interest. It is characterised by positive role modelling, promotion of raised aspirations, positive reinforcement, open-ended counselling, and joint problem-solving. It is often cross-age, always fixed-role, quite often cross-institution, and often targeted to disadvantaged groups".[28]

Research conducted by Dunne and Rawlins (2000), using peer mentors to help students develop transferable life skills, suggests that ''one of the problems of introducing new processes of learning is that

---

Assisted Learning' (2016) 31(3) *Issues in Accounting Education* 321; Meifang Xiang, 'Improving the Quality of Learning in Accounting through Advice and Learning Experiences from Former Students' in *Advances in Accounting Education: Teaching and Curriculum Innovations* (Emerald Group Publishing Limited., 2016) vol 18, 1 <http://www.emeraldinsight.com/doi/abs/10.1108/S1085-462220160000018001>.

[24] Dawson et al, above n 7.

[25] Larry K Michaelsen and Michael Sweet, 'The Essential Elements of Team-Based Learning' (2008) 2008(116) *New Directions for Teaching and Learning* 7. Team-based learning involves independent out-of-class preparation for in-class interactive learning in small groups that is aimed to improve the application of learned material. The majority of face-to-face time is used for group work and group assignments, which aim to develop self-managed learning teams.

[26] Paul Kenny et al, 'Improving the Students' Tax Experience: A Team-Based Learning Approach for Undergraduate Accounting Students' (2015) 10 *Journal of the Australasian Tax Teachers Association* 43.

[27] Colvin, above n 17.

[28] Topping, 'Trends in Peer Learning', above n 14, 632.

it tends to be difficult for both those that provide them and for those who should gain from them".[29] Boud, Cohen and Sampson (2001), note that limitations to PAL initiatives may be segregated into two general categories: power and differentiation.[30] A third category; resistance, was further considered by Colvin (2015) in his study of peer tutoring situations.

Power and differentiation in the context of PAL are taken to mean the basis by which students and instructors see themselves as different from other members of their group with respect to their perceived level of influence.[31] Boud, Cohen and Smpson (2001) note that language, culture, gender and work experience are prominent differentiating factors that need to be carefully considered and managed prior to – and throughout – a PAL initiative.

Resistance as discussed by Colvin (2015), argues that students are not passive recipients of power or culture – they have the power to accept or reject classroom practices, even if this occurs in practices that are largely hidden to the instructor or others occupying positions of power.[32] To this end, Colvin (2015) notes that peer mentors and tutors cannot automatically expect peer interactions in the classroom to be met without resistance.[33] Colvin (2015) suggests that instead, students wait to assign positional power to tutors or mentors until the mentor or tutor helps the student in a way the student wants to be helped. If this does not happen, students disregard the instructor.[34]

Overreliance on the student tutor by the participants, and potentially ineffective teaching or delivery styles of the instructor, are additional concerns that have been flagged by the literature as risks or challenges to consider when introducing or engaging in a PAL initiative.[35] From the student perspective, the issue of the tutor not understanding the material, presenting it in a confusing way, or giving instructions other than what the lecturer had intended created a major risk. Concerns regarding the adequacy of delivery, relationship building and reputation were the primary risks voiced by instructors.

Majority of the literature addresses the risks or challenges associated with PAL by drawing the readers' attention to the importance of communication.[36] Communication plays a vital role in creating and

---

[29] Elisabeth Dunne and Mike Rawlins, 'Bridging the Gap Between Industry and Higher Education: Training Academics to Promote Student Teamwork' (2000) 37(4) *Innovations in Education & Training International* 361, 369.

[30] David Boud, Ruth Cohen and Jane Sampson, *Peer Learning in Higher Education: Learning from & with Each Other* (Psychology Press, 2001) 92.

[31] Boud, Cohen and Sampson, above n 30.

[32] Colvin, above n 17, 222.

[33] Colvin, above n 17.

[34] Ibid.

[35] Ibid.

[36] Kenny et al, above n 26; Colvin, above n 17; Helen Watts, Makis Malliris and Olivia Billingham, 'Online Peer Assisted Learning: Reporting on Practice' (2015) 8(1) *Journal of Peer Learning* 85; Yvonne Hodgson, Robyn Benson and Charlotte Brack, 'Student Conceptions of Peer-Assisted Learning' (2015) 39(4) *Journal*

sustaining relationships, understanding not only the function but the impact of peer roles on all involved. One of the most important elements of any peer situation is the relationship that comes from the interaction between peer mentors or tutors, students, and lecturers.[37] Communication should, therefore, be the main focus of implementing any such program.

Keeping with the theme of commuinication, clarification for all parties could help establish and promote the role of peer tutors or mentors more clearly and alleviate confusion.[38] Clarification of instructor and student roles may lead to further paricipation and success within the programs. Programs embedded with continued training can help increase the chances of success by pre-emptively addressing the challenges of power differentiation and resistance.

As illustrated above, traditional PAL strategies are well-established and flourishing in higher education.[39] Nevertheless, the prevalence of eLearning and interest in online PAL initiatives is widely recognised and hosts additional opportunities, benefits and challenges.[40]

Turney et al (2009), advocates for the use of eLearning platforms which are observed to offer students, teaching staff and institutions flexibility in terms of the times, places and pace at which learning and teaching may occur.[41] The extensive study conducted by Alexander (2001) into the use of eLearning in Australian higher education settings suggested that the use of technology itself does not necessarily improve student learning.[42] Rather, it was indicated that students were more likely to report engaging with the technology when it was associated with opportunities to interact with other students and lecturers.[43] The findings of the Alexander (2001) study concerning the social use of technology to support learning, mirror those arguments emerging from the literature associated with face-to-face PAL, whereby the social aspects of peer learning are argued to support student participation, enhance social connections and increase learning.[44]

Huijser et al (2008) suggests that online PAL promotes a range of benefits for students which includes providing a less intimidating learning environment, aiding motivation, and enabling the provision of

---

of Further and Higher Education 579.

[37] Ibid.

[38] Ibid.

[39] Watts, Malliris and Billingham, above n 36.

[40] Edwards and Bone, above n 7.

[41] C.S.M. Turney et al, 'Using Technology to Direct Learning in Higher Education: The Way Forward?' (2009) 10(1) *Active Learning in Higher Education* 71.

[42] Shirley Alexander, 'E-learning Developments and Experiences' (2001) 43(4/5) *Education + Training* 240.

[43] Ibid.

[44] Morrison, K. (2006). *Peer Assisted Study Sessions. Supporting Quality Learning and Student Engagement in Economics and Business.* Synergy, 24, 3-6.

flexible and timely responses to questions.[45]

Programs selected for in-class PAL emphasise the importance of personal qualities inherent with the student tutor or mentor, such as trustworthiness, sincerity, transparency, self-awareness, generosity and authenticity.[46] Other programs focus on the importance of nimbleness or being responsive and adaptable to needs, learning styles and size of groups.[47] Equally, in the context of online PAL, there is no reason that these skills are less likely to be needed. The challenges of online PAL comparative to their in-class counterparts are therefore consistent. Consequently, it stands to reason that similar strategies to those described above may be employed to meet or erode pervasive risks.

A challenge unique to online PAL delivery stems from the use of technology. One pervalant issue was that of poor content coverage coupled with the the impersonal nature of content delivery, which was identified as contradicting the philosophies of PAL programs. Addtionally, software, connection and lag issues may create a distraction for the participant, and were flagged among the major drawbacks associated with online PAL.[48]

As noted by Huang et al (2015), despite the requirement for more investigation to be conducted, the consensus within the literature is that online PAL programs can be used as an instructive complement to existing in-class PAL and traditional teaching pedagogies, "further extending the benefits of student peer learning and social exchange with the convenience of technology".[49]

3. Discussion

A culture focused on enhancing the quality of the student learning experience whilst improving teaching quality is the goal of higher education.[50] An exploration of the literature demonstrates that traditional or online PAL initiatives provide an attractive method for institutions to achieve their educational goals despite the limitations of PAL.

Introspectively, the article will now briefly discuss the author's experiences with PAL in an attempt to contrast and advocate for the use of PAL practices.

---

[45] Henk Huijser, Lindy Kimmins and Peter Evans, 'Peer Assisted Learning in Fleximode: Developing an Online Learning Community' (2008) 1(1) *Australasian Journal of Peer Learning* 7.

[46] Colvin, above n 17. These qualities are generally considerd paramount to establishing and developing a cohesive relationship between participant and instructor.

[47] Dawson et al, above n 7.

[48] Tairan Kevin Huang et al, 'Internet-Based Peer Assisted Learning: Current Models, Future Applications, and Potential' in Yu (Aimee) Zhang (ed), *Handbook of Mobile Teaching and Learning* (Springer Berlin Heidelberg, 2015) 1 <http://link.springer.com/referenceworkentry/10.1007/978-3-642-41981-2_18-1>.

[49] Ibid 812.

[50] Ross et al, above n 12.

Having had the opportunity to work closely with students as a tutor in an undergraduate taxation law unit at the University of Western Australia and as part of the "New-to-Curtin Mentoring Program",[51] I mirror the benefits attached to the PAL literature discussed above.

As a student tutor, I was given the opportunity to guide student discussion in relation to tutorial questions and facilitate understanding through the use of examples and worked solutions. Class sizes ranged from 15-20 students and discussions were conducted over the course of an hour-long tutorial for a period of thirteen weeks. Training in the form of online activities, as well as a three-hour seminar at the beginning of the semester prior to the commencement of tutorials, was offered to all new tutors.[52] The seminar was of significant value, which provided an opportunity to meet and connect with fellow student tutors and experienced educators. Tutors were expected to revise structured lesson plans, flag queries with the unit-controller and provide online assistance to students where applicable. In each of the activities, communication, trust, time-management and preparation were, in my reflection, key to success. Tutors received financial compensation for their efforts in addition to formal recognition by the employment contract and university staff status.

As a New-to-Curtin Mentor within the discipline of commerce, I was tasked with assisting and advising 10 students who were new to the Curtin Business School with a variety of study related and personal queries. The student cohort was diverse which presented its own challenges with respect to delivering and adapting information. The program spanned the course of one semester and was largely conducted online, with minimal face-to-face interaction. Whilst the program was intended to be more direct, scheduling complications and engagement seemed to necessitate an online approach. Time commitment was variable, however, a minimum contact point of one email per week to the cohort was desirable. Mentors were offered a range of online courses to assist their performance and given the opportunity to attend a number of networking and information seminars. Participation in the program afforded participants extra-curricular recognition in the form of an annotation on their transcripts.[53]

The table below represents the author's subjective recollections of his experience as both a student tutor and mentor and compares the subjective outcomes with the literature available on this topic.

---

[51] *Mentoring for New Students* (8 May 2015) <http://life.curtin.edu.au/new-to-curtin/new-students-mentoring.htm>.

[52] The University of Western Australia, *Tutor Training Resources* <http://www.business.uwa.edu.au/learning/tutoring>.

[53] Student eServices, *Curtin Graduations - Curtin Extra Certificate* (9 April 2010) <https://graduations.curtin.edu.au/graduate/curtinExtra.cfm>.

Table 1: Introspective comparison

	Benefits	Limitations	Literature
Tutoring	Aptitude for teaching and learning. Sense of value and motivation to succeed. Increased understanding and appreciation of Australian taxation law.	Participation resistance and disengagement. Low-class attendance. Class size.	Literature mirrors both benefits and limitations of tutoring. See, Topping and Ehly (1998),[54] Dunne (2000),[55] (2001).[56] Boud, Cohen and Sampson (2001),[57] Topping (2005),[58] Colvin (2015)[59] and Huang et al (2015).[60]
Mentoring	Aptitude for personal growth and development. Sense of value and motivation to succeed. Multiculturalism - increased understanding and	Participation resistance and disengagement. Low-class attendance. Class size.	Literature mirrors both benefits and limitations of mentoring. See, Topping and Ehly (1998),[61] Dunne (2000),[62] Topping (2001).[63] Boud, Cohen and Sampson (2001),[64] Topping, Alexander

---

[54] Topping and Ehly, above n 22.

[55] Dunne and Rawlins, above n 29.

[56] Topping, *Peer Assisted Learning*, above n 14.

[57] Boud, Cohen and Sampson, above n 30.

[58] Topping, 'Trends in Peer Learning', above n 14.

[59] Colvin, above n 17.

[60] Huang et al, above n 48.

[61] Topping and Ehly, above n 22.

[62] Dunne and Rawlins, above n 29.

[63] Topping, *Peer Assisted Learning*, above n 14.

[64] Boud, Cohen and Sampson, above n 30.

| | | appreciation of various customers and traditions. | | (2001),[65]   Topping (2005)[66], Huijser et al, (2008).[67] Turney et al (2009),[68] Colvin (2015)[69] Huang et al (2015).[70] |

The above discussion demonstrates a clear correlation between the benefits and limitations of PAL, as examined earlier in this work, and the experiences of the author. Given the perceived strength of PAL to support traditional teaching pedagogies and the inherent benefits provided to all stakeholders, the article will now turn to recommending an implementation structure to incorporate PAL into – and beyond – the classroom.

4. Implementation strategy

A large volume of literature exists with respect to preparing, orienting, implementing and evaluating PAL initiatives.[71] The recommendation in this part is confined solely to the structure of implementation of PAL programs to meet the needs of the adapting and technically savvy student. Further, the recommendation is largely based on the works of Huang et al (2015)[72] and Watts et al (2015),[73] and draws heavily on their findings.

The implementation of PAL programs in higher education institutions can have a number of structural arrangements.[74] As an instructive point of reference, Huang et al (2015) (**Appendix 1**), illustrates that some of the arrangement can be made to utilise an internal and online based PAL program to support

---

[65] Alexander, above n 42.

[66] Topping, 'Trends in Peer Learning', above n 14.

[67] Huijser, Kimmins and Evans, above n 45.

[68] C.S.M. Turney et al, above n 41.

[69] Colvin, above n 17.

[70] Huang et al, above n 48.

[71] Boud, Cohen and Sampson, above n 30; Edwards and Bone, above n 7; Diane Dancer, Kellie Morrison and Garth Tarr, 'Measuring the Effects of Peer Learning on Students' Academic Achievement in First-Year Business Statistics' (2015) 40(10) *Studies in Higher Education* 1808; Watts, Malliris and Billingham, above n 36; Masters and Yelland, above n 20; Parkinson, above n 16; Hodgson, Benson and Brack, above n 36; Astin, above n 19; Watts, Malliris and Billingham, above n 36.

[72] Huang et al, above n 48.

[73] Watts, Malliris and Billingham, above n 36.

[74] Huang et al, above n 48.

formal teaching pedagogies and enhance student learning.

A noticeable issue with on-campus PAL and teaching activities is that some students find attending on-campus programs difficult due to timetabling issues, work and/or personal conflicts. To this end, including an online session would benefit these students, particularly those managing persistent work commitments.

For the institution, integrating on-campus and online PAL program enhance learning potential for all stakeholders.[75] Informed by the work of Watt et al (2015),[76] it is recommended that a number of steps be considered during the implementation phase. For ease, these steps have been tabled below with a short description provided.

Table 2: PAL Implementation Tree

Implementation Step	Description
Scope	The scope of on-campus and online PAL initiatives concerns the size and scalability of the service. Consideration should be given to the type of PAL service offered, i.e. e-mentoring, group sessions, one-on-one online sessions.[77]
Planning and delivery	Extensive pre-planning of PAL courses is recommended. Directions as to content, structure and desired outcomes should be clearly articulated.[78]
Promotion, recruitment, and attendance	Consideration should be given to the type of promotional activities that will need to be undertaken to inspire attendance and participation in the initiative. [79]
PAL Leaders – recruitment, training and preparing	Recruitment methodology and ongoing training should also be thoroughly examined to ensure that PAL leaders have the required skill and knowledge base necessary for success in the program.[80]

---

[75] Ibid; Watts, Malliris and Billingham, above n 36.

[76] Watts, Malliris and Billingham, above n 36.

[77] Ibid 95.

[78] Ibid 99.

[79] Ibid 95.

[80] Ibid 96 - 98.

Scheduling	Synchronous, asynchronous or multi-model offerings should be considered in light of student availability.[81]
Evaluation	An appropriate evaluation methodology should be adopted to measure the outcomes of the PAL initiative.[82]

By way of example, using the implementation tree above, the author has constructed a template of what a PAL program in the context of a taxation law unit might look like (**Appendix 2**). It is anticipated that this document will be used as a working model with a view to performing a pilot in the intended unit at a later date.

5. Limitations

This article is limited by several factors. First, the article relies on the subjective perspective of the author and their experience. In this way, the lack of objectivity and supporting quantitative data calls in to question the authority of a number of propositions explored within the text. An opportunity exists to evaluate the effectiveness of the implementation structure described above in an attempt to respond to many of the perceived biases apparent in this work.

A second limitation is that the study context was confined to an exploration of one teaching discipline: taxation. Expanding examination into other disciplines and institutions may be valuable in assessing the transferability and accuracy of the assertions made in this study. Despite this, the literature could further benefit from future research which focuses specifically on the outcomes of PAL relative to students, instructors, and mentors in the discipline of taxation.

Additionally, given a general predominance of research that examines the effect of PAL on academic performance only, there would be benefit in examining the process and dynamics that exist within the PAL sessions to support student growth and development. Further research in this area would be valuable as it may help explain why PAL may be more effective on a social level and is likely to contribute more broadly to which aspects of peer learning assist the observed gains in academic performance.

6. Conclusion

Overall, employing PAL initiatives appears to be an effective strategy to meet the demands of various classes of student cohorts. Additionally, the benefits of PAL are observed to extend beyond pure academic performance. PAL's focus on developing learning strategies fosters the critical thinking skills that

---

[81] Ibid 97.

[82] Ibid 100.

underpin the foundation for life-long learning.[83]

The literature demonstrates that both the student and instructor are better equipped towards grasping and applying the underlying concepts and ideas associated with course content when engaged with or in a PAL program. Further benefits are noted in the development of students' interpersonal and communications skills.

Although there are some shared findings (i.e. increased student participation or academic performance), PAL experiences remain variable and responses to these experiences differ pending a myriad of social and psychological factors. The utility associated with the implementation strategy and other assertions proposed in this work remains unknown and will be likely be fraught with challenges . What is true is that there currently exists no optimal solution to the implementation or effectiveness associated with PAL. Each initiative will face its own hurdles and continue to inform and advise on more appropriate and impactful PAL strategies. Such is the quest for innovation.

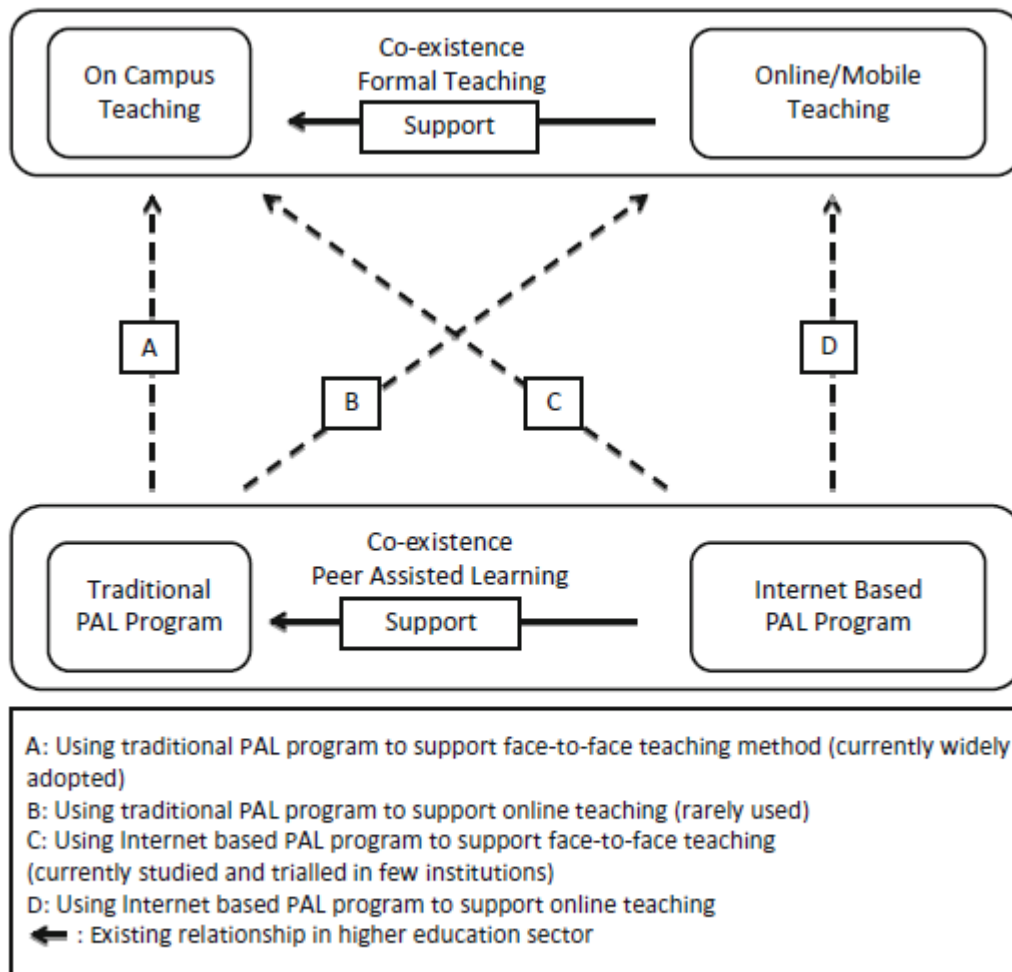
[83] Topping and Ehly, above n 22.

Appendix 1[84]

A: Using traditional PAL program to support face-to-face teaching method (currently widely adopted)
B: Using traditional PAL program to support online teaching (rarely used)
C: Using Internet based PAL program to support face-to-face teaching (currently studied and trialled in few institutions)
D: Using Internet based PAL program to support online teaching
◄── : Existing relationship in higher education sector

Fig. 1 Implementation structure

---

[84] Huang et al, above n 48, 822.

Appendix 2

Principles of Australian Taxation Law – PAL Implementation Template

Implementation Step	Description
Unit details and description	**Intent:** This introductory unit is intended to promote understanding of the Australian taxation system from a legal perspective. **Years active**: since 2016 **FTSE:** 13 (2018) **Structure:** 2-hour lecture, 2-hour tutorial – on-campus. No online availability **Assignments:** Oral presentation, written assignment and exam.
Scope	Introduce the use of on-campus and online PAL utilising the skill set of former students who have successfully completed the unit and display an aptitude for teaching and learning.
Planning and delivery	Preparation of PAL tutorial guide with suggested answers and worked examples. PAL leaders to schedule availability with students once per week prior to the lecture. Use of online delivery recommended. Forums such as Blackboard Collaborate or Skype may be attractive solutions.
Promotion, recruitment, and attendance	Promotion, attendance and recruitment rely heavily on the relationship between former students and educator. Lecturer to facilitate introduction and confirm roles.
PAL Leaders – recruitment, training and preparing	Online application followed by an interview. Training will be ongoing with lecturer as need be. Insentive may be monetary or participatiory.
Scheduling	Variable pending availability of students.
Evaluation	Survy and eValuate.

References

de Agrela Gonçalves Jardim, Maria Helena, Geraldo Bezerra da Silva Junior and Márcia Lúcia Sousa Dias Alves, 'Values in Students of Higher Education' (2017) 08(10) *Creative Education* 1682

Alexander, Shirley, 'E-learning Developments and Experiences' (2001) 43(4/5) *Education + Training* 240

Astin, Alexander W, 'Student Involvement: A Developmental Theory for Higher Education' (1984) 25(4) *Journal of College Student Personnel* 297

Bandura, Albert, *Social Learning Theory* (Prentice Hall, 1977)

Boud, David, Ruth Cohen and Jane Sampson, *Peer Learning in Higher Education: Learning from & with Each Other* (Psychology Press, 2001)

Colvin, Janet W, 'Peer Mentoring and Tutoring in Higher Education' in *Exploring Learning & Teaching in Higher Education* (Springer, Berlin, Heidelberg, 2015) 207 <https://link.springer.com/chapter/10.1007/978-3-642-55352-3_9>

C.S.M. Turney et al, 'Using Technology to Direct Learning in Higher Education: The Way Forward?' (2009) 10(1) *Active Learning in Higher Education* 71

Damon, William and Erin Phelps, 'Critical Distinctions among Three Approaches to Peer Education' (1989) 13(1) *International Journal of Educational Research* 9

Dancer, Diane, Kellie Morrison and Murray Smith, *Measuring the Impact of a Peer-Assisted Learning Program on Students' Academic Performance in Econometrics* (Teaching & Learning Unit, Faculty of Economics & Commerce, University of Melbourne, 2007) <http://sro.library.usyd.edu.au:80/handle/10765/53583>

Dancer, Diane, Kellie Morrison and Garth Tarr, 'Measuring the Effects of Peer Learning on Students' Academic Achievement in First-Year Business Statistics' (2015) 40(10) *Studies in Higher Education* 1808

Dancer, Diane, Kellie Morrison and Garth Tarr, 'Measuring the Effects of Peer Learning on Students' Academic Achievement in First-Year Business Statistics' (2015) 40(10) *Studies in Higher Education* 1808

David, Boud, Ruth Cohen and Sampson Australia) Jane, *Peer Learning in Higher Education: Learning from and with Each Other* (Routledge, 2014)

Dawson, P et al, 'On the Effectiveness of Supplemental Instruction: A Systematic Review of Supplemental Instruction and Peer-Assisted Study Sessions Literature between 2001 and 2010' (2014) 84(4) *Review of educational research* 609

Dunne, Elisabeth and Mike Rawlins, 'Bridging the Gap Between Industry and Higher Education: Training Academics to Promote Student Teamwork' (2000) 37(4) *Innovations in*

Education & Training International 361

Edwards, Susan and Jane Bone, 'Integrating Peer Assisted Learning and ELearning: Using Innovative Pedagogies to Support Learning and Teaching in Higher Education Settings' (2012) 37 *Australian Journal of Teacher Education*

Galbraith, Jonathan and Mark Winterbottom, 'Peer-tutoring: What's in It for the Tutor?' (2011) 37(3) *Educational Studies* 321

Hill, Elspeth, Francesca Liuzzi and James Giles, 'Peer-Assisted Learning from Three Perspectives: Student, Tutor and Co-Ordinator' (2010) 7(4) *The Clinical Teacher* 244

Hodgson, Yvonne, Robyn Benson and Charlotte Brack, 'Student Conceptions of Peer-Assisted Learning' (2015) 39(4) *Journal of Further and Higher Education* 579

Huang, Tairan Kevin et al, 'Internet-Based Peer Assisted Learning: Current Models, Future Applications, and Potential' in Yu (Aimee) Zhang (ed), *Handbook of Mobile Teaching and Learning* (Springer Berlin Heidelberg, 2015) 1 <http://link.springer.com/referenceworkentry/10.1007/978-3-642-41981-2_18-1>

Huijser, Henk, Lindy Kimmins and Peter Evans, 'Peer Assisted Learning in Fleximode: Developing an Online Learning Community' (2008) 1(1) *Australasian Journal of Peer Learning* 7

Kenny, Paul et al, 'Improving the Students' Tax Experience: A Team-Based Learning Approach for Undergraduate Accounting Students' (2015) 10 *Journal of the Australasian Tax Teachers Association* 43

Martin, Deanna C and David R Arendale, *Supplemental Instruction: Improving First-Year Student Success in High-Risk Courses. The Freshman Year Experience: Monograph Series Number 7* (National Resource Center for the Freshman Year Experience, University of South Carolina, 1728 College Street, Columbia, SC 29208 ($25)., 1992) <https://eric.ed.gov/?id=ED354839>

Masters, Jennifer and Nicola Yelland, 'Teacher Scaffolding: An Exploration of Exemplary Practice' (2002) 7(4) *Education and Information Technologies* 313

Michaelsen, Larry K and Michael Sweet, 'The Essential Elements of Team-Based Learning' (2008) 2008(116) *New Directions for Teaching and Learning* 7

Olaussen, Alexander et al, 'Peer-Assisted Learning: Time for Nomenclature Clarification' (2016) 21(1) *Medical Education Online* 30974

Parkinson, Michael, 'The Effect of Peer Assisted Learning Support (PALS) on Performance in Mathematics and Chemistry' (2009) 46(4) *Innovations in Education and Teaching International* 381

Ross, Bella et al, 'Developing Educational Goals: Insights from a Peer Assisted Teaching

Scheme' (2016) 21(4) *International Journal for Academic Development* 350

Ross, Michael T and Helen S Cameron, 'Peer Assisted Learning: A Planning and Implementation Framework: AMEE Guide No. 30' (2007) 29(6) *Medical Teacher* 527

Stout, M Lisa and Amelia J McDaniel, 'Benefits to Supplemental Instruction Leaders' (2006) 2006(106) *New Directions for Teaching and Learning* 55

Sudhakar, Adriel, Jonathan Tyler and James Wakefield, 'Enhancing Student Experience and Performance through Peer-Assisted Learning' (2016) 31(3) *Issues in Accounting Education* 321

Topping, Keith and Stewart Ehly, *Peer-Assisted Learning* (Lawrence Erlbaum Associates, Inc, 1998)

Topping, Keith J, *Peer Assisted Learning: A Practical Guide for Teachers* (Brookline Books, 2001)

Topping, Keith J, 'Trends in Peer Learning' (2005) 25(6) *Educational Psychology* 631

Topping, KJ, 'The Effectiveness of Peer Tutoring in Further and Higher Education: A Typology and Review of the Literature' (1996) 32(3) *Higher Education* 321

Wadoodi, Ashar and Joy R Crosby, 'Twelve Tips for Peer-Assisted Learning: A Classic Concept Revisited' (2002) 24(3) *Medical Teacher* 241

Watts, Helen, Makis Malliris and Olivia Billingham, 'Online Peer Assisted Learning: Reporting on Practice' (2015) 8(1) *Journal of Peer Learning* 85

Webb, Noreen M, 'Peer Interaction and Learning in Small Groups' (1989) 13(1) *International Journal of Educational Research* 21

Williams, Brett and Priya Reddy, 'Does Peer-Assisted Learning Improve Academic Performance? A Scoping Review' (2016) 42 *Nurse Education Today* 23

Xiang, Meifang, 'Improving the Quality of Learning in Accounting through Advice and Learning Experiences from Former Students' in *Advances in Accounting Education: Teaching and Curriculum Innovations* (Emerald Group Publishing Limited., 2016) vol 18, 1 <http://www.emeraldinsight.com/doi/abs/10.1108/S1085-462220160000018001>

eServices, Student, *Curtin Graduations - Curtin Extra Certificate* (9 April 2010) <https://graduations.curtin.edu.au/graduate/curtinExtra.cfm>

Mentoring for New Students (8 May 2015) <http://life.curtin.edu.au/new-to-curtin/new-students-mentoring.htm>

Morrison, K. (2006). *Peer Assisted Study Sessions. Supporting Quality Learning and Student Engagement in Economics and Business.* Synergy, 24, 3-6. - Google Search <https://www.google.com.au/search?q=Morrison%2C+K.+(2006).+Peer+Assisted+Study+Sessions.+Supporting+quality+learning+and+student+engagement+in+economics+an

d+business.+Synergy%2C+24%2C+3-
6.&rlz=1C5CHFA_enAU763AU763&oq=Morrison%2C+K.+(2006).+Peer+Assisted+St
udy+Sessions.+Supporting+quality+learning+and+student+engagement+in+economics+
and+business.+Synergy%2C+24%2C+3-
6.&aqs=chrome..69i57.382j0j4&sourceid=chrome&ie=UTF-8>

The University of Western Australia, *Tutor Training Resources* <http://www.business.uwa.edu.au/learning/tutoring>