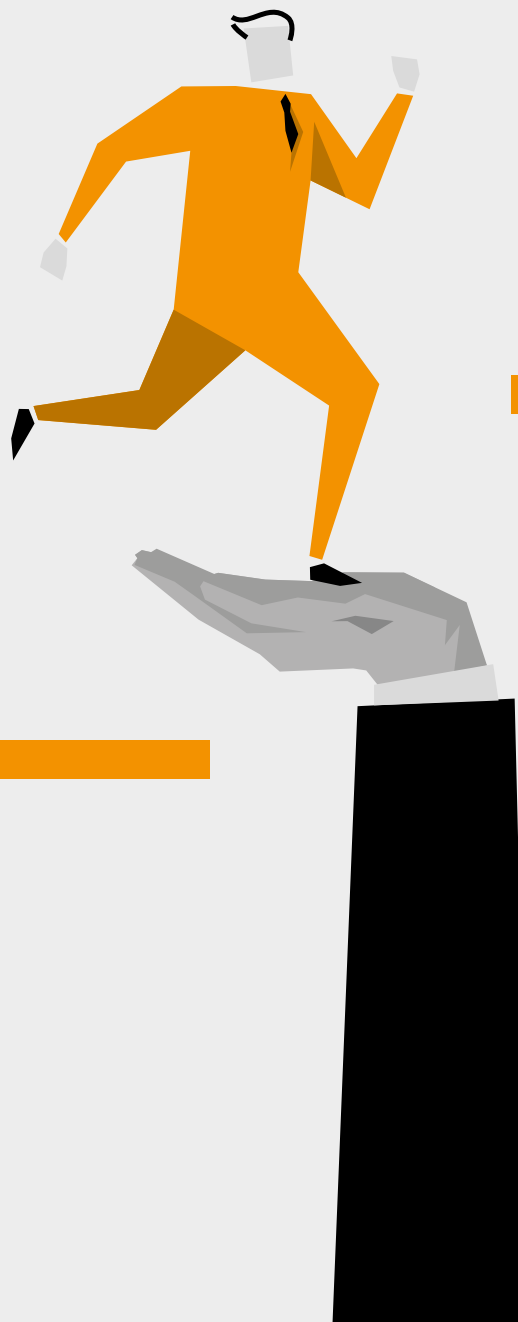


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THE BEST OF PALS

The application of near-peer assisted learning in the teaching of research methods skills, using Information and Communication Technologies



The review suggests peer assisted learning is particularly effective in enhancing student experience in areas that require practical skill development (sciences, medicine, research)

This article will assess the application of near-peer assisted learning (N-PAL) in the teaching of research methods skills using Information and Communication Technologies (ICT), in order to facilitate an enhanced interactive learning environment and student experience. A near-peer is an individual who has recently gone through experiences that someone (one or two stages behind) is now or soon will be facing.

PAL and N-PAL

In a Higher Education context, Topping and Ehly (2001) have encouraged the use of student peer assisted learning (PAL) strategies in addition to, but not in replacement of, the traditional lecturer led model of teaching. Ten Cate and Durning (2007) discuss the psychology of why peer tutoring may be a particularly effective addition to Higher Education teaching. This goes beyond the basics of social interactionist theory and reaching the upper tiers of the individual's potential within their zone of proximal development (i.e. the difference between what learners can do without help and what they cannot do) with assistance from a more advanced peer (Vygotsky, 1978, cited in Topping and Ehly, 2001). Ten Cate and Durning suggest that congruence (lack of distance) between the student and a slightly more advanced peer, contributes to the student's ability to engage with the peer. This congruence, which is both cognitive (thinking in a similar way, on a similar intellectual level) and social (being at a similar education stage, with no position of authority), may encourage engagement with peer teaching as a supplement to other methods of active learning.

Dawson, van der Meer, Skalicky and Cowley (2014) performed an extensive review of recent PAL studies conducted between 2001 and 2010. This focused mainly on the outcomes of module grades and pass/fail of the module after PAL and support was consistently found for improvement on both of these outcomes. In addition to this, improved satisfaction was established, suggesting reduced anxiety from the provision of additional support in a less formal lecture environment, and further opportunities to ask questions outside the lecture, where large cohorts sometimes make it difficult to do this.

PAL has been frequently applied in the Sciences. Both Coe, McDougall and McKeown (1999) and Tariq (2005) found that peer led assistance in the form of additional small group seminar guidance for Chemistry and Bioscience undergraduate students was positively evaluated by both peers and participating students. Although the results of Ashwin (2003), focused on a Further Education context, they provide a warning about making sure that Higher Education PAL/N-PAL is encouraging greater quality of learning by facilitating deep learning (a meaningful understanding of the content, which is used in interaction with previously learned knowledge), rather than surface learning (a superficial, temporary understanding), in order to merely repeat facts (Entwistle & Ramsden, 1982). Ashwin found that while attendance at PAL sessions was positively

related to performance on Chemistry and Mathematics A-Level examinations, there was also a decrease in meaningful orientation towards learning materials after participating in PAL sessions (reflected in qualitative feedback from peer tutors as well). An additional field where PAL is utilised frequently is Medicine. For example, Han, Chung and Nam (2015) found when practicing upper-limb dissections that those students in smaller peer-assisted learning groups (with peer tutors trained by the faculty giving guidance during the session) showed improved perceived and actual understanding the course content in comparison to solely learning from a faculty demonstration. Han *et al* state that tutees also felt more relaxed when making enquiries in the peer-led sessions than the faculty-led sessions. Some concerns were raised by students about the competency of the peer tutors though.

Cusick, Camer, Stamenkovic and Zaccagnini (2015) have applied N-PAL interventions in providing generic research skills training to postgraduate students in sessions across an academic year (with recent graduates of the programme with PhD scholarships as near-peer tutors). This found that the intervention was consistently positively evaluated, with qualitative feedback suggesting students appreciated the additional alternate source of advice, and the friendly environment.

Rationale

The review suggests PAL is particularly effective in enhancing student experience in areas that require practical skill development (sciences, medicine, research). Within Psychology a particular instance of practical skill development that may benefit from N-PAL, would be in the teaching of Research Methods workshops. On this basis, the aim of this study is to see whether undergraduate students learning ICT skills in introductory research methods workshops appreciate the support of a near-peer assistant, in addition to the lecturer, when developing these skills. The overall research question is: Does having a near-peer assistant helping in ICT workshops for Research Methods in Psychology enhance the student experience of these classes?

Description of the innovation Participants

Seven first year Psychology undergraduate student participants in the 'Research Methods in Psychology 1' class selected for this trial provided feedback. A mix of traditional (18-21 years old) and mature entry students (21 and over) gave qualitative written feedback on having a near-peer assistant helping in the ICT workshops using a feedback form. The class contained a mixture of students with English as a first or alternate language.

The student who agreed to be the near-peer assistant in the three workshops was a third year Psychology undergraduate student, Tara (this is a pseudonym)*, with previous experience as a mentor to first and second year Psychology undergraduates at UWL. A short semi-structured interview was conducted with Tara about her experience of the trial.

Materials and Procedure

The trial took place during weeks 10-12 of the 'Research Methods in Psychology 1' module run at UWL. These workshops were focused on learning and running the statistical analysis (an independent samples t-test) for the second assessment of the module. Prior to beginning the trial, the researcher informed Tara about what would be expected, in terms of guidance on the materials being taught, as well as how Tara would be expected to provide guidance in the form of talking students through the processes to obtaining the answers they were seeking, but not directly giving the answer to the students.

At the beginning of the ICT workshop in week 10, the researcher informed the class that the student near-peer assistant (Tara) would be helping out in ICT workshops over the next three weeks. The students and the near-peer assistant were informed that any feedback provided, when requested by the researcher, would remain anonymous in any write up of the study (students were asked not to put their names on the feedback forms), and that they did not have to answer any questions they did not wish to. This explicit description of the research was in line with ensuring ethical principles developed by the British Psychological Society (2014) were followed, in terms of giving an informed picture of the study, and that the participants' anonymity and right to withdraw from participation were ensured. The students had also received a lecture on Research Ethics by this stage and were aware of their ethical rights.

The student evaluations of the trial used a feedback form developed by the researcher that allowed the students to suggest what they enjoyed about having a student near-peer assistant in the workshop, how they thought the experience could be improved, and whether applying N-PAL to other modules would be useful. These forms were issued at the end of the second workshop in week 11 (as week 12 was a drop-in session). A consent form and interview schedule were also developed for the semi-structured interview conducted with the near-peer assistant after the final ICT session in week 12.

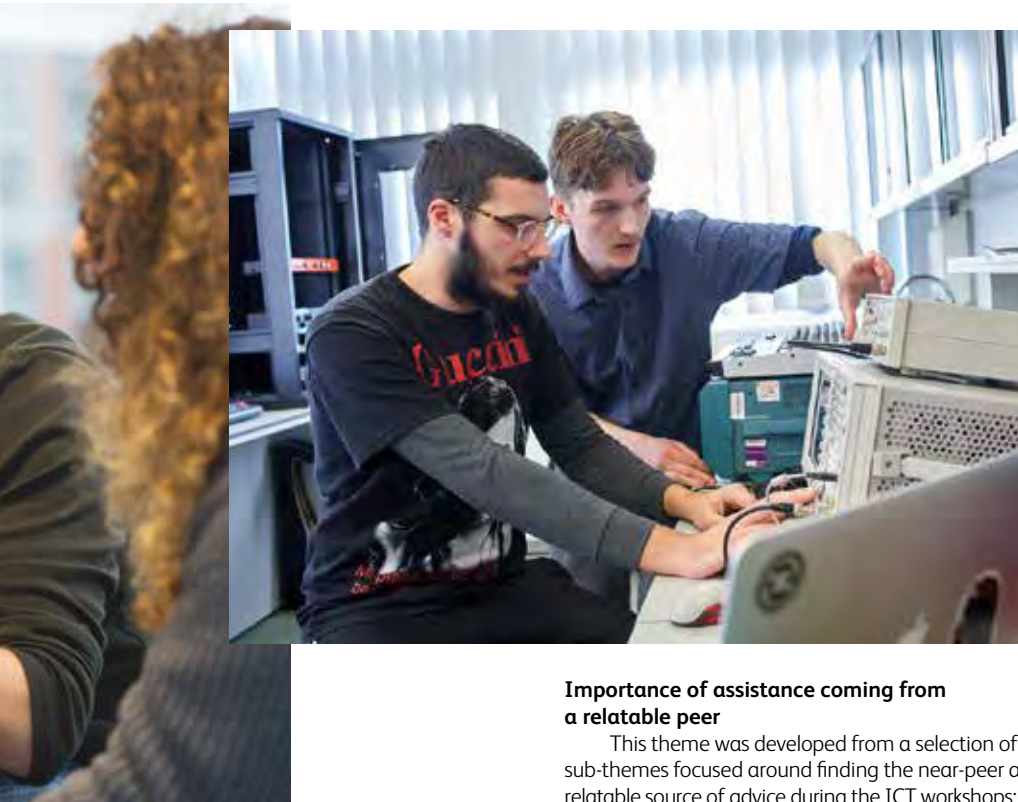
Evaluation of the innovation

Conducting a thematic analysis, using the guidelines developed by Braun and Clarke (2006), led to the development of three themes in the student evaluation data: Importance of assistance coming from a relatable peer, Peer facilitates engagement with course and a standalone Appreciation for near-peer assistant theme. Table 1 provides a list of the themes and sub-themes developed, along with some quotations from the student's evaluation data (designated by S1, S2...). Where appropriate, supporting quotations from the interview with the near-peer assistant are also provided. In the quotations any word in brackets [] indicates an addition by the author for clarity.



Theme	Sub-themes	Example supporting quotations
Importance of assistance coming from a relatable peer	Been there before	<i>'It's a great help having someone who has experience of what we are just now hearing, sometimes for the first time' (S1)</i>
	Near-peer perspective on course	<i>'...we can learn more about this course from a different view' (S4)</i>
	Approachable	<i>'Some of us find it easier to communicate with someone who is same level' (S5)</i>
Peer facilitates engagement with course	Access to help	<i>'A great help while the lecture can continue' (S1)</i>
	Wanting more contact time with near-peer assistant	<i>'We may also find additional help for our module in present or future as well' (S2)</i>
	General study skills advice	<i>'...can also give us ideas how to improve on this course' (S4)</i>
	Encouraging action/activity	<i>'...encourages us to perform better in our lectures' (S2)</i>
Appreciation for near-peer assistant		<i>'Student peer is helpful and useful (resource)' (S2)</i>
		<i>'I think this is a good support for us' (S4)</i>
		<i>'I think it was a great idea to have a student peer assistant helping out in the IT workshops' (S6)</i>

TABLE 1: Table of themes developed via thematic analysis of the student feedback forms



The students not only appreciated the extended contact in class, but in fact would have found more contact time with the near-peer assistant beneficial (wanting more contact time with near-peer assistant)

Importance of assistance coming from a relatable peer

This theme was developed from a selection of sub-themes focused around finding the near-peer a relatable source of advice during the ICT workshops: 'Is useful because the students can understand better their student struggle...' (S3).

In particular several students in the workshop found the near-peer relatable due to the fact that they had been through the same experience of learning the material in these workshops fairly recently (two years ago) on the same module: 'It's a great help having someone who has experience of what we are just now hearing, sometimes for the first time' (S1), and also '...it helps to have someone who has done this course before.' (S7).

Student 4 expands on this to emphasise that the near-peer sharing their experiences with the students was also welcomed: 'The student shared her knowledge and experience with us' (S4). So having been through the same module level experience previously (been there before) makes the student near-peer relatable to those students currently undertaking the class.

Students 2 and 4 also go on to mention that the near-peer assistant can also give the students in the class a student perspective on the course in general, as well as at module level (near-peer views on course): 'It provides a different point of view.' (S2), '...we can learn more about this course from a different view' (S4).

These two elements of being a relatable near-peer also contribute to the students in the ICT workshops finding the near-peer approachable with student 5 mentioning: 'Some of us find it easier to communicate with people who is same level as us' (S5). Tara also refers to this, making the distinction about the main characteristic that differs between a lecturer and a near-peer assistant in the eyes of a student being taught: '...comfortable having someone there who is also a student, not necessarily the teacher who is then going to assess their work.' (Tara).

Overall these sub-themes within the student evaluations suggest that it was particularly important that the assistant in the class is on a near-peer level with the students in the class, due to the students finding the near-peer more relatable due to their more advanced student status. This innovation has enhanced the student experience of Research Methods ICT workshops through providing an additional source of advice from a more senior undergraduate student.

Peer facilitates engagement with course

This theme emerged from a selection of sub-themes focused around finding the near-peer to encourage further engagement with the course, in terms of the materials, and skill development generally. One way in particular that the near-peer encouraged engagement with the course is through providing more access to help in class. Whilst the lecturer will always assist all the students in a class in sequence, the lecturer cannot be in two places at the same time, helping individual students with differing enquiries. This is where the near-peer assistance was of particular use to the students: 'Getting more help. Getting more attention.' (S5), and 'Yes, it is helpful to have extra assistance, because there is more help, faster.' (S7). Student 6 expands upon this:

'When the teacher is with other students and your stuck you have to wait, but with a student peer assistant helping out you don't have to wait as long, and the class can move on quicker – If your behind while the teacher is talking the assistant is there to help.' (S6)

Having the near-peer assistant there helped the workshop to run more smoothly, with those who were struggling being able to gain more intensive one to one support. Tara's observations also refer to this when she states:

'...they seemed happy that they couldn't just bother the lecturer all the time with every question... they didn't feel like they were interrupting maybe, and they didn't feel like they were taking all of the lecturers' time...' (Tara).

The students not only appreciated the extended contact in class, but in fact would have found more contact time with the near-peer assistant beneficial (wanting more contact time with near-peer assistant). This was reflected in particular by students 1 and 2 who stated: 'An idea might be that a peer assistant can attend for a few minutes before and after the session and maybe during breaks.' (S1), and 'We may find also an addition help for our module in present or future as well.' (S2). Student 1 notes that the peer assistant trial was a 'Great idea – pity not available from beginning (week 1)' (S1).

However, the students were clear that the near-peer assistance is most beneficial for Research Methods (when responding to the 'Do you think

having student peer assistants help out in the seminars/workshops for other modules would be useful? question), due to the more challenging technical, practical components of the work: 'Particularly useful during Research methods which is by far the most difficult subject.' (S1), and also 'It could be, but I think research methods is more useful because it requires more practical work.' (S7).

Although the students (also in response to this question) did refer to the fact that the near-peer assistant could also be useful in order to ask for insight into general study skills advice as well (general study skills advice): 'They can also give us ideas how to improve in this course.' (S4). Student 3 provides potential examples of this:

'It can be useful for other modules even just for explain how can be an easy way for study properly or write in a good way.' (S3)

This was also implied in the context of study skills required beyond the technical IT skills required for the Research Methods in Psychology module as well: 'Yes, I think it will be useful as other students can support us in any issue related to the units of this module.' (S4)

An underlying theme of the near-peer encouraging action/activity in classes was determined in the analysis: '...encourages us to perform better in our lectures.' (S2), with Student 6 specifying:

'I think it would be helpful if we had a peer assistant in our [theory] workshops as well, just encourage us to communicate in groups more.' (S6)

Whilst students are encouraged to talk to each other about the problems they work on in the theory workshops, this does not always occur whilst the lecturer is engaged with assisting other students. Having the near-peer assistant present in the class as well helped promote interactivity between the students in these instances. Tara also felt the students were more comfortable using the SPSS software with an additional pair of hands to help out in the ICT workshop as well: '...from what I've seen, they definitely were more comfortable using it...' (Tara).

Overall these sub-themes within the student evaluations (supported by the reflections of the near-peer assistant as well) suggest that the near-peer assistant has enhanced the student experience of Research Methods ICT workshops by helping facilitate student engagement with the course, predominantly by providing greater access to help and advice, and also being there to act as an additional stimulant for student performance in class.

Reflections

Both the feedback from the students and near-peer indicate that the student experience was enhanced by the additional presence of the near-peer assistant. Having the near-peer assistant proved useful in the class, particularly in instances

where some students required more intensive one to one guidance, as this allowed Tara or me to continue providing guidance to other students who needed it. As I had a background teaching these students prior to the study, it could be questioned whether this may have influenced my interpretation of the data, potentially skewing it in a more positive light as I hold rapport with the students.

Discussion

The findings from the Thematic analysis conducted are consistent with the literature suggesting that PAL/N-PAL innovations provide a positive student experience (Coe *et al.*, 1999; Tariq, 2005; Dawson *et al.*, 2014; Cusick *et al.*, 2015). The themes made it evident that the innovation enhanced the student experience of Research Methods ICT workshops through providing an additional source of relatable advice (Tara), who helped stimulate engagement with the course. The Appreciation for near-peer assistant main theme, and Wanting more contact time with near-peer assistant sub-theme reflect the students' desire for greater provision of near-peer assistance as part of their in-class student experience.

The access to help sub-theme also supports the suggestion by Dawson *et al.* (2014) that PAL provision can be used to help reduce the anxiety of initially learning a subject. Providing greater access to help as part of the Research Methods ICT workshops can reduce the anxiety felt by students about learning statistics focused content and skills. A near-peer assistant is particularly suitable to help reduce this anxiety, as this study supports the near-peer being found to be relatable by the students in class, potentially due to the fact they have completed that specific module previously (reflected in the been there before sub-theme). This supports Ten Cate and Durning (2007) suggestion that students experience social congruence with the near-peer assistant. In part due to having completed this part of the course already, the students also had a great respect for the views of the near-peer assistant on the course and development of study skills at first year stage, as the near-peer had been in the same position previously (reflected in the sub-themes Near-peer views on course and General Study Skills advice). This appears to alleviate the concern of competency of the peer tutor referred to by Han *et al.*, (2015). The point Tara makes about students additionally being able to ask questions of someone not assessing them, potentially explains Han *et al.*, (2015) finding that students feel more relaxed when making enquiries of peers than teaching staff (regardless of lecturers ever open stance to being asked questions). The Encourages action/activity sub-theme suggests that N-PAL schemes, such as the one conducted for this study, could act as a potential catalyst for stimulating more





This innovation would also offer the opportunity to capable third year near-peer students to obtain teaching experience in an academic environment, which may prove useful for those planning a career in education, whether at higher education or other levels

successful academic performance by encouraging greater in-class engagement.

When Tara was asked about what was different in being a peer assistant for a class of students, in comparison to the student mentoring she had previously done, she pointed out that being a peer assistant seemed to have less assessment driven focus and more emphasis on helping students to use the software themselves. This supports the approach of encouraging meaning oriented learning.

Future directions

Now that this innovation has been successfully piloted to enhance the student experience in a smaller group of students, I would like to conduct future work to expand this on a larger scale to the full module length, and with multiple classes undertaking Research Methods modules at level 4. Expanding this innovation would have positive implications in terms of the TEF Assessment criteria (TEF, 2017). In particular the enhanced engagement from interacting with near-peers would be a beneficial (and cost-effective) way of contributing to both the Student Engagement (TQ1) via additional forms of stimulation and contact, and Positives Outcomes for All (SO3) by having near-peers to aspire to.

This innovation would also offer the opportunity to capable third year near-peer students to obtain teaching experience in an academic environment, which may prove useful for those planning a career in education, whether at higher education or other levels (FE or secondary). This expansion could help contribute towards the Scholarship, Research and Professional Practice (LE2), Employability and Transferable skills (SO2) and Employment and Further Study (SO1) criteria of the TEF by providing a unique provision for students to develop and acquire the communication skills needed in order to be successful teachers by practice, and scaffolding of those who currently teach professionally.

Note (*): *I would like to thank the near-peer assistant Tara (a pseudonym, for ethical reasons) for her involvement in this trial. Her assistance and diligence in preparation and engagement with the trial were much appreciated.*

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Keywords

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