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Bridging the Experiential Learning Gap: An Evaluation of the Impacts of Ulster University's Senior Student Tutoring Scheme on First Year Students

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Keywords

First year students, experiential learning, peer assisted tutoring, senior student tutors, written examination assessment



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Bridging the Experiential Learning Gap: An Evaluation of the Impacts of Ulster University's Senior Student Tutoring Scheme on First Year Students

Abstract

Since 2004-05 first year students at the School of Environmental Sciences, Ulster University have engaged with senior student tutors (SSTs) in workshop activities aimed at preparations for their written examinations. Using a pedagogical action research methodology we evaluated the role of SSTs in bridging the experiential learning gap between practitioners and recipients. Analysis suggested positive associations between workshop participation, examination success and improved module marks. Surveys showed that first year students gained confidence, were less intimidated and empowered with revision and examination techniques. The SSTs gained valuable insights, tutoring experience and an evidence base useful to their career paths. Discussion focused upon risk-averse first year students who grasped and then transformed the experiences of the SSTs into successful examination performance. It is argued that our SSTs have helped to bridge the experiential learning gap and made inter-collegiate connections that would have been less-likely in a formal, teaching staff-led situation. Faculty suffering from examination related student progression problems could, therefore, benefit from adopting this locally controlled, low cost, small-scale, tailor-made, peer assisted tutoring scheme.

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Introduction

Undergraduate mentoring programs have been widely adopted by universities looking to help first-year students make their transitions from school to higher education (Nora & Crisp 2007). Recent interest in these initiatives has focused on two types. First, in the 1990s, the Peer Assisted Study Sessions (PASS) program at the University of Manchester was established, which in turn was based upon the Supplemental Instruction (SI) model pioneered by the University of Missouri-Kansas City in the early 1970s. PASS/SI is a volunteer-led student-to-student support scheme. It recruits pairs of higher-level non-subject specialists to act as peer leaders to first-year students. They organise seminars and facilitate student-centred group learning in a discursive, non-threatening environment across a spectrum of courses in which students have found it difficult to achieve. The schemes are centrally organised, focus on the review of material from targeted modules with significant failure rates, use a reflective feedback trail from students to leaders to teaching staff and allow for regular meetings between PASS leaders to share their experiences (Hurley, Jacobs & Gilbert 2006). Studies have shown that these programmes are effective in improving students' learning skills, academic performances and retention levels (Lovicsek & Cloutier 1997; McGuire 2006). Second, peer-assisted learning (PAL) has been adopted internationally by disciplines including chemistry, economics, education and mathematics (Coe, McDougall & McKeown 1999; Glynn et al. 2006; Condell & Yogarajah 2010). The main difference between PAL and PASS is that PAL fosters cross-year support between students on the same course, encouraging students to help each other and to learn collaboratively under the guidance of trained leaders, often from the year above. A growing body of research has also supported these types of student-to-student intervention (Capstick & Fleming 2002; Ning & Downing 2010), or what Boud, Cohen and Sampson (2001, p. 4) defined as the process of "students learning from and with each other". When organised centrally, both forms require significant inputs of financial resources and human capital. However, as Parkinson (2009, p. 381) acknowledged, analyses of "the effects of PAL in the context of the Higher Education system of the UK and Ireland (remain)...sparse". This article's central aim, therefore, is to make a contribution to fledgling research that is grounded on our own students' perceptions of a particular form of peer-assisted tutoring (Kieran & O'Neill 2009).

The senior student tutoring (SST) scheme, established in 2004-05 in the School of Environmental Sciences at Ulster University, borrows elements associated with PASS/SI and PAL. It is a small but ambitious, stand-alone scheme, which uses constructivist learning theory as its theoretical foundation (Karagiorgi, Street & Tziambazi 2005). Its focus is on what are perceived, because of lack of experience (Pointon 2008), to be challenging assessment procedures: three-hour long written examinations. The School offers module-specific, teaching staff-led revision sessions; to supplement these we employ SSTs to organise workshops in a less formal, more user-friendly environment. We work on the supposition that that the SSTs are better placed to share their own self-reflective experiences of the examination task by passing on useful guidelines, hints and tips. In so doing, they help inexperienced first-year students to construct and enhance their own knowledge and understanding of revision strategy and exam preparation (Longfellow et al. 2008). The initiative is underpinned by the notion of experiential learning, which Kolb (1984, p. 38) defined as "the process whereby knowledge is created through the transformation of experience". This can be viewed as a cycle whereupon a student might do something and gain know-how, reflect on what happened, generalise those thoughts and consider the implications, apply what has been learnt and then move forward to the next experience. Our supposition, in this instance, is that knowledge of the examinations task is derived from bridging the "gap"; i.e. grasping and transforming the experiences of the older and nominally wiser SSTs. The SSTs attempt to foster

critically discursive interactions with less experienced students, and through partnership look to cultivate a more inclusive collegial spirit. From the School's perspective, we try to improve the overarching educational experiences and academic performances for both the SSTs and their tutees (Stout & McDaniel 2006).

In light of these aspirations, this article gives an explanation of what senior student tutoring entails before outlining the methodology that fuels an appraisal of the scheme. Based on a flexible design strategy, our mixed-methods action-research project examined three sets of information. First-year student progression data taken from Ulster University records (2008-11) was analysed in conjunction with empirical material addressing the effects of the SST scheme from the viewpoints of the student recipients and the tutoring practitioners (in 2010-11). Our primary objective was to evaluate the effectiveness of the SSTs in bridging the experiential learning gap for the first-year students under their tutelage. We were particularly interested in determining how the SSTs facilitated these students' preparations for their examinations, as well as identifying any drawbacks, with a view to assessing the value of the scheme and its potential to be transferred elsewhere.

Senior Student Tutors

In 2010-11, incoming first-year students were enrolled in a range of environmental-science, geography and marine-science honours degree programs, as well as a two-year, non-honours associate bachelor degree (ABD) in environmental studies. They studied a common curriculum of six modules containing four written examinations taken from earth, physical and social-science-based subjects, together with a skills toolbox covering geographical information systems and statistical analysis. Transition to tertiary-level education was supported by induction activities involving an initial week-long activity period that included a residential field trip. This transformed into a system of weekly tutorials led by teaching staff, and a longitudinal focus upon the acquisition of study skills. Generic to all programs, these included graduate-level essay writing, referencing technique, personal development planning, careers preparation and oral presentation (Maguire 2006).

During each year of the scheme's existence the School has employed up to four final-year or postgraduate students to take part in these peer-assisted tutoring activities. SSTs are recruited after an application process that requires submission of curriculum vitae and covering letters outlining suitability for the post. They must have previously demonstrated good academic performance, are anticipating or have gained good degree classifications and have a sound knowledge and understanding of their subject programs and modules. Each has at least five semesters of experience of the practice associated with the School's learning and teaching environment. Beginning in 2007-08 (the third edition of the scheme) all newly recruited SSTs have been expected to have previously experienced the scheme as first-year students. In comparison to PASS/SI schemes within the institution (where leaders are unpaid volunteers) our SSTs receive a small payment and undertake a short training program arranged with Ulster University's Staff Development Unit. Sessions focus upon how to tutor small groups of between 10 and 15 students in preparation for each SST conducting a series of three 50-minute-long workshops. Organised by program cohort, these take place in semester teaching weeks 10 to 12. Content is arranged by each SST and can lead to relatively loose structured plans, and items based upon a suggested list of formative activities. These can include revision techniques, planning for examinations, reading around topics, evaluation of marking criteria, locating and reviewing past papers, writing of exercise examination essays, construction of essay plans and/or discussion of outline answers.

Workshops provide a smaller-scale and shorter but more time-intensive variation on the longitudinally based PASS/SI schemes mentioned earlier. Like those found in PAL programs, our SSTs are subject-savvy individuals who can discuss program, module and examination material, share their received learning strategies and help develop generic study skills. SSTs are not expected to instruct or provide “answers” (not having the specialist expertise of teaching staff), but can offer their own relevant ideas. They are encouraged to use their learning and critical reflection of their earlier modular examination experiences to engage with and lead the first-year students to construct their own understanding of what is required in the examinations (Swain 2008). These exams take place in semester teaching weeks 13 to 15. The first-year students are instructed to attend workshops as an extension to the weekly tutorial system, meaning that they are timetabled into the curriculum.

Methodology

In-house discussion indicated that SSTs had made important contributions to the School. The initial rationale was for SSTs to engage with students, to foster affinity with a School identity, and to improve the pan-academic experience for all parties. In light of review and perceived weaknesses (Lafferty 2006), the emphasis shifted towards preparing students for their modular exams. This was symptomatic of pressure to improve progression and retention rates, and meant that outcomes related to the quality of the educational experience became less obvious. An investigation of the scheme was merited. Thus enquiry was undertaken in 2010-11 to (1) determine the effectiveness of the scheme in bridging the experiential learning gap between SSTs and first-year students, and (2) evaluate its role in influencing examination performances. The project was based on a flexible mixed-methods action research design, whereby qualitatively structured inquiry helped to explain quantitative results (Robson 2011).

Quantitative method

Initially, longitudinal data covering different programme cohorts and relating to progression from students' first year, during the period from 2008-11, was analysed. Examination performances were compared with attendance records compiled at workshops. A decision was taken to distinguish between those who had attended one or more workshops and those who were absent from all workshops. This was based on the supposition that absentees would suffer from failing to attend and engaging with the opportunities on offer. Rates of exams success and failure (taken on a threshold figure of plus/minus 40%) amongst attendees and non-attendees were then collated alongside a total of six first-year module average marks as indicators of overall performance. This process (as denoted by Dawson et al. 2014) did not lend itself to rigorous numerical analysis, but provided the starting point for a basic descriptive exploration of the data.

Qualitative method (1)

In trying to interpret these rudimentary calculations, empirical feedback was received from first-year students engaging in the SST scheme. We used a structured seven-item questionnaire specifically designed to elicit critical evaluations of their lived experiences. Open-ended questions focused on recollections of going to sessions and students' explanations for absence, motivations to attend, perceptions of satisfactory and unsatisfactory aspects of the scheme, suggestions for improvements and a comment on the performance of SSTs. Respondents' anonymity was assured, an independent response was encouraged and prompts were neither suggested nor issued. Enquiries were administered amongst the class of 2010-11 after three scheduled workshops but before their examinations had taken place. Consistent with the semi-formal nature of the process,

this enquiry was carried out by the SSTs face-to-face with first-year students. A total of 70 questionnaires were satisfactorily completed, representing a response rate amongst workshop attendees of 80%. Temporal considerations and logistical constraints meant we were unable to ascertain the views of non-attendees. SSTs were busy students and so it was unfeasible and unreasonable to expect them to pursue absentee first-year students for their opinions. A rigorous content analysis aimed at categorising/coding student responses and allowing for basic descriptive analysis was undertaken to inform our discussion (Krippendorff 2013).

Qualitative method (2)

The third part was based upon interpretative phenomenological inquiry (similar in design to that used by Hall and Jaugietis 2011), whereupon we examined the scheme from the SSTs' perspectives. In 2010-11, four were recruited: three final-year undergraduate students drawn from the geography and environmental science programs, and one postgraduate student who had previously studied environmental science in the School. The undergraduates were assigned to a cohort that reflected their studies, with the environmental-science student also engaging with marine scientists; the postgraduate worked with the ABD students. None of the four had any previous tutoring experience. Individual, in-depth interviews using nine open-ended questions were administered via e-mail communication. This enquiry was aimed at establishing the SSTs' reasons for applying, views on training, workshop activities carried out, perceived aspects that they enjoyed or disliked and suggestions for improvement. Again, respondents were assured of the confidentiality of their responses. Discussions were undertaken after the completion of the third workshop and a period of reflection. This resulted in four sets of fine-grained detail that, in turn, demonstrated high standards of integrity and critical insight. This information was then subjected to a thematic analysis that generated a series of important ideas and illustrations for discussion (Norton 2009). Both of the thematic and (previously mentioned) content analyses were based upon questions that had been formulated as part of a pilot survey in 2009-10. Scrutinisers took the opportunity to gain experience that was subsequently used to develop and verify the categorisation and coding of responses in the 2010-11 survey.

This three-pronged methodology has its strengths and limitations, and any attempt to establish a concrete relationship between student-to-student intervention and positive outcome has to be treated with caution (Smith & Norton 2007). For example, the element of self-selection into the scheme by more-able first-year students and SSTs was problematic. This meant that the opinions put forward could be construed as overly enthusiastic or value-laden, thus introducing a potential for bias. Equally, the snap-shot nature of the survey meant that, in the case of the SSTs, only a small number of views frozen in time could be collated. On the plus side, our research protocol was carefully formulated by defining the inquiry, describing the situation, analysing the quantitative data to look for contradictions and collecting and interpreting relevant evaluative data before critically reflecting with a view to introducing change (an adaptation from Bassey 1998). In line with the work of Creswell (2003), our trio of interlinking quantitative and qualitative material led to an experimentally pragmatic (if unconventional) exploration of the data. We were keen to gather "data on participant perceptions... (as) important elements in understanding the relevance of the mentoring process on those who (as we shall see) matter the most" (Gershenfeld 2014, p. 387). The results that follow represent, therefore, a tentative evaluation of the SST workshops after a three-year study period.

Results – Workshops

Given these considerations, Table 1 suggests positive associations between first-year student attendance at workshops and their performance in examinations. Between 2008 and 2011, the scheme saw a steady increase in overall levels of attendance and in the average number of workshop attendances. First-year student audience numbers increased from 36% (41 attendees out of 113 enrolled) to 83% (86 out of 104), and the average number of workshop attendances grew from 1.7 to 1.9 per student. Growth occurred as the scheme became embedded in the School's practice, as tutor-training techniques evolved and as those students who were tutored carried forward their experiences and became SSTs. These positive signs were reinforced by the numbers of examination failures amongst workshop attendees falling from 1.2 per student in 2008-09 to 0.5 per student in 2010-11. In contrast, and despite the numbers of workshop absentees across the School having fallen to 17% (18 out of 104), examination failures amongst this group of absentees remained consistently higher. In

Table 1: First-year students' workshop attendances and exam performances, 2008-11

Year	Course	Environmental Science		Geography		Marine Science		ABD in Environmental Studies		School of Environmental Sciences		Total n =
		Attendees	Non-attendees	Attendees	Non-attendees	Attendees	Non-attendees	Attendees	Non-attendees	Attendees	Non-attendees	
2008 - 2009	- Workshop attendance n = (%)	19 (68)	9 (32)	13 (21)	48 (79)	3 (43)	4 (57)	6 (35)	11 (65)	41 (36)	72 (64)	113 (100)
	- Average attendance Ps/3	2.5	0	1.6	0	1.7	0	1	0	1.7	0	
	- Exam fails Ps/4	0.3	2	0.4	1.2	2.7	2.5	1.3	2.1	1.2	2	
	- First-year module avg %	63.9	44.5	55.4	49.5	50.6	31.8	41.3	42.5	52.8	42.1	
2009 - 2010	- Workshop attendance n = (%)	9 (43)	12 (57)	36 (56)	28 (44)	0 (0)	13 (100)	10 (77)	3 (23)	55 (49)	56 (51)	111 (100)
	- Average attendance Ps/3	1.5	0	1.5	0	0	0	2.3	0	1.3	0	
	- Exam fails Ps/4	1.1	1.5	0.4	0.9	0	1.5	1.2	0.3	0.7	1.1	
	- First-year module avg %	50.0	45.3	57.6	47.0	0	45.3	43.6	46.3	37.8	45.9	
2010 - 2011	- Workshop attendance n = (%)	23 (85)	4 (15)	39 (85)	7 (15)	16 (80)	4 (20)	8 (73)	3 (27)	86 (83)	18 (17)	104 (100)
	- Average attendance Ps/3	1.8	0	1.5	0	1.7	0	2.5	0	1.9	0	
	- Exam fails Ps/4	0.6	2.0	0.2	1.3	0.8	1.0	0.3	1.0	0.5	1.3	
	- First-year module avg %	53.3	36.3	57.3	41.1	50.0	53.3	59.8	39.0	55.1	42.4	
2008 - 2011	- Workshop attendance n = (%)	51 (67)	25 (33)	88 (51)	83 (49)	19 (48)	21 (52)	24 (59)	17 (41)	182 (56)	146 (44)	328 (100)
	- Average attendance Ps/3	1.9	0	1.5	0	1.1	0	1.9	0	1.6	0	
	- Exam fails Ps/4	0.7	1.8	0.3	1.1	1.2	1.7	0.9	1.1	0.8	1.4	
	- First-year module avg %	55.7	42.1	56.8	45.9	33.5	43.5	48.2	42.6	48.6	43.5	

Key: Ps/3 = (Average attendance) per student out of three timetabled workshops; Ps/4 = (Number of fails) per student out of four examinations; module avg = six-module average (%).

Sources: Attendance registers at workshops/annual Ulster results sheets, 2008-11.

2008-09 an average failure rate of two exams per first-year student was recorded amongst absentees. Two years later this figure had fallen to 1.3 per student. Nevertheless, and in spite of the failure rate in both groups falling by 0.7 exams per student, workshop absentees were between two and three times more likely to fail an examination than their attending counterparts. Non-attendees drawn from the environmental sciences, for instance, could expect to fail two examinations, whereas geography attendees risked a one-in-five chance of failing an examination. In terms of module average marks, the discrepancy between the attendees and absentees was even more remarkable. By 2010-11, environmental-science and geography workshop attendees were recording mean module marks between 16 and 17% higher than students who had not attended any workshops. ABD attendees at 2.5 workshops per student, the highest average attendance recorded, were faring better still, with nearly 21 percentage points separating them from the absentees. This was a significant turnaround from one year earlier, when ABD workshop attendees had performed worse than the absentees. Equally, marine-science students were counteracting the general trend. Attendance at workshops, whilst still producing a positive outcome, had a less marked association with their examination performances and a worse association with their module marks; this pattern was consistent with Bidgood's (1994) study.

Evaluation – First-Year Student Views

Analysis of our snapshot empirical survey mirrored earlier results. They confirmed that a minority of first-year students (13%) had attended three SST workshops; the average number of attendances was 1.7, with a modal attendance at one workshop. Indeed, 46% of respondents only went to a single session (usually the first). Subsequent absences were explained by having “to complete other assessed coursework” (accounting for 56% of explanations) and to a lesser extent “sickness” (16%). In addition to this prioritisation of activities, individual commitments including child care, paid employment, personal appointments, sporting activities and transport logistics were highlighted, alongside forgetfulness and inclement weather. The fact that the workshops were mandatory had limited effect on first-year students.

Table 2: Reasons for attendance

Why did you go?	(n = 89) / % of responses
To prepare for and learn about the examinations (get tips)	37
To learn better revision techniques/gain advice on relevant study skills	22
To gain from the experience of the SST in having done exams previously	18
Other reasons	23

Source: Author's Survey and Content Analysis (2010-11).

Our evaluation form contained a request to explain their reasons for attending the workshops. Table 2 shows that first-year students understood what the scheme was about and, more importantly, what it was designed to achieve. Opportunities to learn about the exams, study new revision techniques and work out what to expect (when based upon the SSTs' acumen) were features in almost three-quarters of respondents' reasons for attending workshops. This was testament to the SSTs' powers of explanation and the readiness with which most of them conducted their sessions.

Table 3: Strengths

What did you like the most?	(n = 131)/ % of responses
The chance to review past papers and practise answers to exam questions	27
Everyone joining in/discussing topics/sharing revision tips and methods	19
Informal, personable, friendly, relaxed approach of SST	18
Able to learn from knowledge and experience of SST	18
Other likes	18

Source: Author's Survey and Content Analysis (2010-11).

We asked first-year students to outline those elements that they found satisfactory. Table 3 demonstrates that whilst they were expected to give two responses, some contributed several explanations, reflecting their enthusiasm for the scheme. Analysis showed that many students enjoyed what was done in the workshops and how it was delivered by their SSTs as part of an experiential learning process. Almost 40% of responses stated that our first-year students felt comfortable gaining insight and taking advice from a more experienced individuals in a discursive, group sharing environment. Around one in five responses showed that the less formal atmosphere generated by their SSTs led to a safe working environment, which gave first-year students a sense of security and the freedom to discuss examination issues. Over one quarter said being given the chance “to practise” their answering technique before the real examination was a key factor.

Table 4: Weaknesses

What did you like the least?	(n=104)/ % of responses
Day and time allocated, length of session, venue	38
Exercises considered repetitive and/or irrelevant	14
Formality, hard to relax, difficult to speak out in front of rest of class	13
Nothing	11
Groups were either too big or too small	10
Other dislikes	14

Source: Author’s Survey and Content Analysis (2010-11).

Table 4 reveals the unsatisfactory features of the scheme. Criticisms related to temporal and spatial constraints, problems with what was done and how it was carried out by one of the SSTs, together with a lack of agreement on what constituted an optimal size for the classes. Variability in terms of the confidence, dedication, knowledge and interpersonal skills of individual SSTs was to be expected (and a problem experienced by others; e.g. Smith & Norton 2007). Almost 40% of respondents disliked the timing of the workshops (12.15pm on a Wednesday), claiming to have other personal or sporting responsibilities. Remedial measures involved more first-year tutorial slots being timetabled to increase flexibility in the system and avoid clashes (remembering, of course, that our SSTs had study obligations to deal with).

Table 5: Suggested changes

What improvements could be made?	(n = 80)/ % of responses
Change timing of workshop sessions to suit first-year students	21
No changes required	19
Have smaller groups with more SSTs available	19
Have fewer classes and make sessions shorter	10
Other improvements	31

Source: Author’s Survey and Content Analysis (2010-11).

First-year students were able to suggest how they would change the SST system. Table 5 shows that the number of responses declined significantly compared to that for the other questions, suggesting that this question was difficult to answer. Nevertheless, almost one in five thought that no changes were required, reiterating the general satisfaction with the workshops. Similar proportions of the survey group proposed a change to the timetabling of sessions and supported moves towards smaller groups of fewer than five persons and even a “one-to-one” ratio of first-year students to SSTs. The latter changes were unfeasible given limited resource availability.

The final question established first-year students’ opinions of their SSTs’ contributions. On a four-point rating scale, results showed that the SSTs were appreciated for leading the workshops and

facilitating activities. More than nine out of 10 respondents scored their SST as being excellent or very helpful. Likewise, the SSTs were valued for their “advice”, “approachability”, “forthrightness”, “honesty”, “humour” and “politeness”, along with their abilities to “communicate” and “inform”. First-year students recognised the altruism demonstrated by their SSTs and were happy to praise them.

Evaluation – Senior Student Tutor Views

Whilst acknowledging the problem of using a small sample of SSTs and being wary when trying to aggregate results of workshop attendance based upon diverse activities, four common themes emerged from our analysis of SST responses.

1. Personal development

In three out of four cases, the students who eventually became SSTs originally applied for the position based on self-developmental motives: specifically, gaining experience as a learning facilitator with a view to future career progression. Tutor C, for example, “felt it would help develop me as a person towards my goal of being a teacher”, and Tutor A expressed a “wish to pursue a career in environmental education”. Two of the SSTs (B and C) demonstrated selfless motives aimed at “sharing techniques”, “creating a sense of pride within students” and fulfilment of a wish to “pass on my advice and experience”. More-personal reasons related to “financial reward”, “look[ing] well on my [teacher-training] application” and, in line with Ogden et al. (2003), improvement of their own study strategies through “the ability to re-examine [my] revision technique...[to] assist my own personal study in the future”.

All four found the training sessions useful. Before becoming involved with the scheme, each SST had had limited knowledge and understanding of how to tutor; ranging from knowing “a lot about learning styles” to being “pretty much clueless”. Training helped to crystallise thought processes by providing “a base and knowledge to work from” (Tutor C) and giving opportunity to “pool together and pick up ideas for the workshops” (Tutor D). This satisfaction extended to the SSTs offering few suggestions for improvement other than Tutor A requesting “a [pre-training] brief...outline of what we will discuss” and Tutor D broaching the “possibility of offering [us] the opportunity to pursue a more extended training program...similar to what new teaching staff are offered”. Financial and temporal restraints have restricted such in-house expansion. However, Ulster University offers a 10-credit Peer Assisted Study Skills module as part of its continuing personal- and professional-development strategy, in which our tutors can participate.

2. Experiential learning transmission

SSTs outlined details of their workshop activities. Responses were notable for their heterogeneity and demonstrations of self-initiative as each took the common training frameworks and embellished them with their own experientially informed ideas. This was a pleasing aspect, as it confirmed the standardisation/free-rein nexus that underpinned the scheme. Table 6 illustrates techniques ranging from visualising positive outcomes to discussing revision methods and identifying command words. In one instance, the role of alcohol and psychological stresses upon the revision process was examined. Common emphasis lay on developing first-year students’ deep-thinking skills through construction of what Tutor D called “a ‘model’ that describe[d] types of information and advancing stages of learning”. This form of experientially based learning transmission involved “factual information – recall and description, moving up through synthesising...information, categorising into topics, understanding issues, identifying inter-relationships, towards gaining original insights [to the examination questions]”. Equally, SSTs focused upon practicalities such as identifying additional resources, reading around topics, compiling revision and examination timetables, reviewing marking criteria and locating copies of previous examination papers.

The formative consequences of attending three workshops were a common thread; these consequences were facilitated by interaction, small-group discourse and habitual reporting of findings. As Tutor C confirmed, “the idea of reporting back to the class was so they could all feed off each other and learn from their [immediate] peers”. Transmission of messages was not from SST to tutee, but emanated from tutees towards fellow tutees and then to the SST. The circulatory nature of this practice helped to create a supportive learning and teaching environment and contributed to an enhanced sense of cooperation and collegial spirit amongst those prepared to participate. Our stakeholders were empowered to embrace their self-learning process, and helped

create a student-centred community that was characterised by a sense of partnership and mutual achievement. Tutor B, for instance, noted that he “enjoyed...observing the improvement in exam preparation, especially by those who consistently attended the group, as well as sharing knowledge and ideas in a positive environment”. Tutor C expressed similar sentiments, declaring, “I really enjoyed the preparation for each class and feeling as if I was doing something to benefit the students and prepare them for their exams.” Once again, this was a pleasing aspect as the workshops evolved according to each cohort’s particular (and not always homogenous) needs.

Table 6: Senior student tutoring activities

S S T	Workshop One	Two	Three
A	<ul style="list-style-type: none"> • Revision overview • Learning techniques 	<ul style="list-style-type: none"> • Exams overview • Revision approaches to each exam 	<ul style="list-style-type: none"> • Review of past exam papers • Revision 24 hours prior to exam
B	<ul style="list-style-type: none"> • Discussion of the role of alcohol and stress • Visualisation techniques • Identify students’ strengths/ weaknesses 	<ul style="list-style-type: none"> • Use of e-journals • Revision sources • Importance of reading material • Emphasis on study routines • Importance of helping each other 	<ul style="list-style-type: none"> • Exam timetable • Formulating checklists for exams • Review of past exam papers • Focus on key words
C	<ul style="list-style-type: none"> • Discussion of revision techniques • Revision 24 hours prior to exam • Collect past exam papers (i.e. homework) 	<ul style="list-style-type: none"> • Understanding command words • Simplifying questions • Creating brief answer plans • Extending plan into essay answer (i.e. homework) 	<ul style="list-style-type: none"> • Review of past exam papers
D	<ul style="list-style-type: none"> • Discussing revision frame of mind • Organising revision time • Discussing exam requirements/ timetable 	<ul style="list-style-type: none"> • Exam timetable • Understanding command words • Creating essay answer plans • Extending plan into full answer (i.e. homework) 	<ul style="list-style-type: none"> • Marking criteria • Examining importance of reading material • Walkthrough of exam situation • Revision 24 hours prior to exam

Source: Author’s Survey and Content Analysis (2010-11).

3. Ontological conditions

On the downside, flaws in the scheme were exposed, including the problem of finding suitable workshop time slots, avoiding conflicts with other academic (i.e. coursework) commitments and ensuring SST sessions had relevance (to encourage additional attendance). The question of whether groups were too big or too small was also raised, echoing the natural concerns of some first-year students shown in Table 4. This issue required careful handling because both situations affected the confidence levels of a small number of students in different ways. On one hand, if a group was

considered too big, some individuals were afraid to speak out. Intimidation could be felt equally if the group was thought too small because some students felt intimidated by the greater individual visibility. These concerns explained some of the “tail-off” in attendances as students took the opportunity of absencing themselves. From the SSTs’ perspectives, this decline prompted criticism and self-doubt. As Tutor B observed, “although the importance of class was emphasised to students many failed to see how important it was to attend. Numbers decreased dramatically in each class, which I hope [did] not reflect the standard of [tutoring]”. Tutor D candidly reflected on “not being able to encourage and deliver as much interaction as both students and [I] would have liked. In that respect, I feel I lack the necessary skills to enthuse and motivate”. Tutor C was aware of the ontological condition at work, declaring, “The only improvements I feel that could be made would be for more...students to attend but I guess they can’t be forced to attend and the people who want to better themselves will attend.”

4. Transitional value

This notion that the SSTs were preaching to the more-able students has to be taken into account. Nevertheless, it can be argued that value-added benefits have accrued. Our SSTs, for example, have helped to bridge the experiential learning gap. They made connections that, because of the status differences, would have been less likely in a formal, teaching-staff-led situation. Tutor A, for instance, noted, “I feel respected by the first-year students, who genuinely seem to value my ideas as they knew I was coming from a student’s point of view, not a lecturer’s.” Likewise, Tutor C stated, “I enjoyed the interaction with the students; they gave me different insights into how they revise and how they would prepare. I liked the way the students were prepared to listen and take on board my advice.” The feelings of trust were reciprocated, as the study showed that first-year students valued the advice proffered and the “real life” acumen of their older, wiser and more experienced peers (see Table 3). It can be argued, therefore, that more-independent first-year student learners have emerged; ones who are able to study and revise effectively for examinations and have better understanding of modular contents and improved learning, reasoning, problem-solving and communication skills. It can also be inferred that first-year students and SSTs have improved their personal-development attributes on the back of these heightened levels of interaction, communication and cooperation. In the future, this vertical integration framework or “expert scaffolding” (Falchikov 2001, p. 89) will be extended from its present bookended (level four and levels six and seven) structure. We have taken on board Tutor C’s suggestion of bringing in “a [level five] second-year [to act as an SST]...to give the first-years an insight as to how second year developed from last year’s sessions...for anybody interested, this could show a development path from being tutored to assisting the tutor to being a tutor yourself”.

First-year students have benefited financially by reducing their supplementary examination fees and the SSTs have benefited from remuneration that reflected their efforts. As Tutor D confirmed, “financial reward, however modest..., was definitely one of the considerations. Equally important was the opportunity to gain tutoring experience in preparation for career progression after studies”. This was a triple-win situation, because the SSTs were able to gain valuable insights, tutoring experience and an evidence base useful to their *curricula vitae*. Three of the four SSTs reported that the scheme had clarified their career ambitions (towards teaching) and provided them with appropriate training and a self-recognition that the SST experience was integral to managing their vocational pathways. In short, individual leaders were the “real winners” (Donelan 1999, p. 1).

Discussion

Methodological, practical and subjective difficulties limited us to a series of exploratory comments. At face value, there appeared to be positive associations between engagements with this peer-assisted tutoring scheme, enhanced examination performance and improved module marks. Results showed that, between 2008 and 2011, a non-attendeer would suffer almost twice as many examination failures as someone who went to the workshops. The messages seemed straightforward; participate in workshops, prepare for exams, reap the academic and financial benefits of gaining higher marks and avoid supplementary assessment requirements.

On reflection, the picture was more complicated. Of note was the finding that amongst workshop attendees, 16% went to three sessions and the modal level of attendance was one workshop. Around 50% “dipped into” the first session and then failed to engage further. This decay effect was due to

first-year students' prioritising other coursework requirements and, to a lesser extent, ill health. Comment from the SSTs suggested the lapses were due to a lack of any marked assessment associated with the workshops and, conversely, with being given homework (for example, the writing of exercise essays in between workshops two and three; see Table 6). From the other side of the coin, critical evaluation also revealed that "the Senior Student Tutorials...were...focusing too much on simple study and revision skills". A small number of first-year student responses considered the workshop exercises to be repetitive and/or irrelevant (Table 4). This suggested that the examination messages espoused by our SSTs were already embedded. Discussion revealed that some students who started attending workshops and then stopped were amongst the most talented and self-confident members of their cohort. In one sense, they were the epitome of independent learners taking the view, as Capstick (2004) noted, that additional workshop attendances were surplus to their needs.

A second discussion of those (in the minority) attending two or three workshops confirmed that the SSTs were engaging with highly motivated, risk-averse students: conscientious individuals who were responding positively to their elders. We saw in Table 3 that many first-year students enjoyed the workshop activities and how the SSTs delivered them. In a group, discourse-based, sharing environment these first-year students were comfortable learning from an experienced individual. They liked the informal atmosphere and believed that they had greater freedom to ask questions and discuss examination issues. Above all, they considered being given the chance to "practise" their answering technique to be paramount. As a result, these first-year students gained confidence, were less intimidated (than in a formal teaching-staff-led session) and were empowered with an arsenal of revision and examination techniques, which they used to their advantage. It may be, as Ashwin (2003) and Entwistle (2005) pointed out, that these students were adopting a strategic or achievement-based approach. They were discerning a greater understanding of the examination requirements and process rather than deriving any deeper meaning-orientated learning benefit. These outcomes fit with assessment- and confidence-driven models identified by previous research (e.g. Wallace 2003). We would argue, however, that the transitional value derived from going to most or all of the workshops was related to revision skills being refreshed and reinforced in a positive and formative pattern. These students were those who chose what they believed to be the lowest-risk path of attending everything and soaking up the complete learning experience, with the expectation that they would gain the greatest reward. It can be inferred that it was these first-year students who fully bridged the experiential learning gap, thereby reinforcing our theoretical assumptions. In a holistic, sponge-like learning manner, they grasped and then successfully transformed the experiences that their SSTs shared with them. These were the individuals Tutor C identified as the ones who "want[ed] to better themselves", and in so doing, helped to create "an ontologically valuable sense of self, community and place" (Skey 2014, p. 1) within the School.

Conclusions

This type of peer-assisted tutoring scheme operating as one segment of a wider in-house study-advice tutorial system has proved fruitful. It has been specifically useful to the SSTs and to those we have identified as the risk-averse first-year students. The scheme is a hybrid, borrowing elements of PASS/SI and PAL, but at the same time it has developed its own features. Key drivers have included careful recruitment and training of SSTs, development of both their organisational and self-initiative study-skills, and first-year students' willingness to actively participate in workshops and reflect on the messages being divulged. SSTs' being granted autonomy over how each session was run and organised was crucial in empowering both them and their tutees. This standardisation/free-rein relationship meant that learning and teaching responsibilities could be shared, and peer-assisted learning communities of practice could be developed. Our SSTs have helped to bridge the experiential learning gap. They have made informal (socially and pastorally valid) connections that would have been less likely in a formal, teaching-staff-led situation because of the status differences. It is fair to say that the academic maturity displayed by SSTs has contributed positively to first-year students making their (experiential) transitions between secondary and tertiary (UK) education systems. Indeed, they have helped to produce more independent higher-education learners capable of achieving examination success, and thereby facilitated the learners' progression to the next level.

Even so, we face challenges. First, the scheme has to explore ways of embracing the non-attendeess, who came mainly from the marine-science program. Traditionally, we have struggled to recruit

SSTs from the subject area, and this lack of a program-specific affinity may explain the anomalous findings associated with this group of students. Second, we need to commission specific enquiry aimed at non-attendees to improve our understanding of their situations. To this end, we intend to explore students' communication expectations in order to make workshops more attractive through, for example, social media and text messaging. Third, a means of improving the rates of extended engagement with three scheduled workshops needs to be found, since it is important to reward the diligence shown by SSTs in preparing activities. Finally, we need to publicise to all first-year students the inclusive and formative nature of attending each workshop. To this end, we have introduced (in the third workshop) an assessed piece of coursework based upon a mock examination question exercise.

In terms of our original aims, it appears that first-year students' written examination performance has improved and student-to-student partnership has developed in a positive fashion. Senior student tutoring, therefore, offers the potential to be transferred to other schools and faculties in Ulster University or beyond. In particular, those suffering from student progression problems traceable to weaknesses in written-examination performance could benefit. Equally, those seeking to foster experiential learning through student partnerships, both within and between different program and year cohorts could gain advantage by adopting this locally controlled, low-cost, small-scale, tailor-made, peer-assisted tutoring scheme.

References

- Ashwin, P 2003. Peer support: relations between the context, process and outcomes for the students who are supported. *Instructional Science*, vol. 31, pp. 159-173.
- Bassey, M 1998. Action research for improving educational practice. In Halsall, R (ed.), *Teacher Research and School Improvement: Opening doors from the inside*, Open University Press, Buckingham, pp. 94-95.
- Bidgood, P 1994. The success of SI – the statistical evidence. In Rust, C & Wallace, J (eds.), *Helping Students to Learn from Each Other: Supplemental instruction*, Staff and Educational Development Association, London, pp. 71-80.
- Boud, D, Cohen, R & Sampson, J (eds.) 2001. *Peer Learning in Higher Education: Learning from and with each other*, Kogan Page Ltd, London.
- Capstick, S 2004. Benefits and shortcomings of peer assisted learning (PAL) in Higher Education: an appraisal by students. Paper presented to the Peer Assisted Learning Conference, Bournemouth, England, February.
- Capstick, S & Fleming, H 2002. 'Peer assisted learning in an undergraduate hospitality course: second year students supporting first year students in group learning. *Journal of Hospitality, Leisure, Sport and Tourism Education*, vol. 1, no. 1, pp. 69-75.
- Coe, E, McDougall, A & McKeown, N 1999. Is peer assisted learning of benefit to undergraduate chemists? *University Chemistry Education*, vol. 3, pp. 72-75.
- Condell, J & Yogarajah, P 2010. Evaluation of peer assisted learning in mathematics (PALM) for second year undergraduate mathematics. *Perspectives on Pedagogy and Practice*, vol. 1, pp. 71-83.
- Creswell, J 2003. *Research Design: Qualitative, quantitative, and mixed methods approaches*, Sage, Thousand Oaks, CA.
- Dawson, P, van der Meer, J, Skalicky, J & Cowley, K 2014. On the effectiveness of supplemental instruction: a systematic review of supplemental instruction and peer-assisted study sessions literature between 2001 and 2010. *Review of Educational Research*, vol. 84, no. 4, pp. 609-639.
- Donelan, M 1999. SI leaders: The real winners. Paper presented to the National Conference on Supplemental Instruction, Kansas City, MO, May.

- Entwhistle, N 2005. Contrasting perspectives on learning. In Marton, F, Hounsell, D & Entwhistle, N (eds.), *The Experience of Learning: Implications for teaching and learning in Higher Education* (3rd (Internet) ed.), Scottish Academic Press, Edinburgh, pp.3-22.
- Falchikov, N 2001. *Learning Together: Peer tutoring in Higher Education*, Routledge, London.
- Gershenfeld, S 2014. A review of undergraduate mentoring programs. *Review of Educational Research*, vol. 84, no. 3, pp. 365-391.
- Glynn, L, MacFarlane, A, Kelly, M, Cantillon, P & Murphy, A 2006. Helping each other to learn – a process evaluation of peer assisted learning. *BMC Medical Education*, vol. 6, no. 18, pp. 1-9.
- Hall, R & Jaugietis, Z 2011. Developing peer mentoring through evaluation. *Innovative Higher Education*, vol. 36, no. 1, pp. 41-52.
- Hurley, M, Jacobs, G & Gilbert, M 2006. The basic SI model. *New Directions for Teaching and Learning*, vol. 106, pp. 11-22.
- Karagiorgi, Y, Street, I & Tziambazi, E 2005. Translating constructivism into instructional design: potential and limitations constructivism – an overview of the learning theory. *Educational Technology and Society*, vol. 8, no. 1, pp. 17-27.
- Kieran, P & O'Neill, G 2009. Peer-assisted tutoring in a chemical engineering curriculum: tutee and tutor experiences. *Australasian Journal of Peer Learning*, vol. 2, pp. 40-67.
- Kolb, D 1984. *Experiential Learning: Experience as the source of learning and development*, Prentice-Hall, Upper Saddle River, NJ.
- Krippendorf, K 2013. *Content Analysis: An introduction to its methodology* (3rd ed.), Sage, Newbury Park, CA.
- Lafferty, B 2006. *Review of Subject Based Tutorial System*, School of Environmental Sciences, Ulster University.
- Longfellow, E, May, S, Burke, L & Marks-Maran, D 2008. They had a way of helping that actually helped: a case study of a peer assisted learning scheme. *Teaching in Higher Education*, vol. 13, no. 1, pp. 93-105.
- Loviscek, A & Cloutier, N 1997. Supplemental instruction and the enhancement of student performance in economics principles. *The American Economist*, vol. 41, no. 2, pp. 70-76.
- Maguire, S 2006. Induction as a longitudinal process. In Cook, A, Rushton, B & Macintosh, K (eds.), *Supporting Students: Extended induction*, Ulster University, Coleraine, pp. 13-17.
- McGuire, S 2006. The impact of supplemental instruction on teaching students *how* to learn. *New Directions for Teaching and Learning*, vol. 106, pp. 3-10.
- Ning, H & Downing, K 2010. The impact of supplemental instruction on learning competence and academic performance. *Studies in Higher Education*, vol. 35, no. 8, pp. 921-939.
- Nora, A & Crisp, G 2007. Mentoring students: conceptualizing and validating the multi-dimensions of a support system. *Journal of College Retention: Research, Theory & Practice*, vol. 9, pp. 337-356.
- Norton, L 2009. *Action Research in Teaching and Learning: A practical guide to conducting pedagogical research in universities*, Routledge, Oxford.
- Ogden, P, Thompson, D, Russell, A & Simons, C 2003. Supplemental instruction: short and long-term impacts. *Journal of Developmental Education*, vol. 26, pp. 2-8.

Parkinson, M 2009. The effect of peer assisted learning support (PALS) on performance in mathematics and chemistry. *Innovations in Education and Teaching International*, vol. 46, no. 4, pp. 381-392.

Pointon, V 2008 Changes in A-level geography and their implications for higher education. *Planet*, vol. 19, pp. 9-11.

Robson, C 2011. *Real World Research: A resource for users of social research methods in applied setting*, Wiley, Chichester.

Skey, M 2014. Are We All Cosmopolitan Now? Paper presented to the ISCTE-IUL Are We All Cosmopolitan? Conference, Lisbon, Portugal, September.

Smith, D & Norton, B 2007. *Peer Support by Student Learning and Achievement Mentors (SLAMS)*. Viewed 15 August 2014, <http://www.ulster.ac.uk/star/transferability/slamsLH.doc>.

Stout, L & McDaniel, A 2006. Benefits to supplemental instruction leaders. *New Directions for Teaching and Learning*, vol. 106, pp. 55-62.

Swain, H 2008. Peer-assisted learning (PAL). *Times Higher Education*, 3 January. Viewed 15 August 2014, <http://www.timeshighereducation.co.uk/210078.article>.

Wallace, J 2003. Case study, supplemental instruction (SI): a peer tutoring programme for students. In Wallace, J (ed.), *Supporting the first year experience*, Continuing Professional Development Series (4), LTSN Generic Centre, York, pp. 8-18.