Helping them to help themselves? An evaluation of student-led tutorials in a Higher Education setting

Abstract:

This article delivers an evaluation of a pedagogical intervention implemented within a first-year undergraduate university module. The intervention, termed the student-led tutorial, is based on the concept of the tutorless tutorial and presents a platform for student learning which was designed to increase active learning prior to their participation in more traditional and tutor-led modes of university teaching. To evaluate the efficacy of this method, a mixed-methods approach to the data collection was undertaken. The sample for the study was drawn from students enrolled on a Sport Development degree programme at a university in the North West of England. The first component of this methodological approach entailed the repeat completion of a questionnaire by 62 first year undergraduate students on two separate occasions. The questionnaire was administered in two phases: a baseline wave at the beginning of a core module, and a secondary wave 16 weeks later. In addition to this, a focus group consisting of five students was conducted within two weeks of the second round of questionnaires to gain a more in-depth understanding of students' experiences and perceptions of the SLT model. The findings demonstrate that SLTs hold the potential to facilitate active learning and aid comprehension and understanding. Students particularly the social aspect of the SLTs which enables extended peer-to-peer interaction. The data suggests that students develop a sense of responsibility for and ownership of their learning, yet for the SLT mechanism to be effective, all members of the group must buy-in to the concept. Where commitment and contributions to the group process are uneven and inequitable, resentment and discord within an SLT may be fomented.

Key Words: active learning; student-led tutorial; tutorless tutorial

Word Count: 8,785

Introduction

As Hénard and Rosevare (2012) acknowledge, the Higher Education (HE) environment is experiencing increasing pressure from many different directions. For example, student engagement and satisfaction is regularly measured to gauge the perceived quality of the learning experience and this informs top-down directives to enhance the learner experience; there is increased public pressure for HE institutions to deliver value for money and suitably prepare students for the labour market (Hénard and Rosevare, 2012; Giannakis and Bullivant, 2015). What is more, and due to what has been dubbed as the 'massification' of HE, student

numbers in HE have expanded in recent years and are expected to grow further (Scott, 1995; Hornsby and Osman, 2014). Despite the rapid increase in student enrolments since the end of the twentieth century, universities have been expected to accommodate greater numbers of students with minimal additional resources (Hornsby and Osman, 2014). The massification of HE not only means greater numbers of learners passing through university doors, but also more diverse students, thus testing the ability of academic personnel to deliver ever more innovative teaching methods (Hénard and Rosevare, 2012; Hornsby and Osman, 2014).

In addition, undergraduate students, particularly those in their first year of university, demonstrate a tendency to be passive during lectures and 'small group teaching' sessions, often expecting tutors to present them with 'ready-made' answers (Van Damme 2004; Cuseo, 2007). Where this may be the case, deep learning becomes inhibited as students do not engage fully with the content matter and as a consequence, they do not explore ideas and issues as meaningfully as they could (Biggs and Tang 2007). To help explicate this trend, Jones et al. (2015) contend that first year university students demonstrate poor knowledge retention from their prior further education courses. Jones et al. (2015) partly attribute this trend as a manifestation of the increasingly politicised nature of secondary school and further education in the UK, wherein more and more schools are being driven to 'teach-to-the-test'. Jones et al. (2015) suggest that such a discourse reinforces the implementation of objectivist learning approaches which emphasise the transmission of knowledge directly from teacher to pupil in a didactic fashion. To elaborate, the regular test re-test environments which students often find themselves in during further education often promote and perpetuate surface forms of learning, such as rote and recall, that ultimately harm active and deep learning (Jones et al., 2015). As a consequence, Jones et al. (2015) illustrate that students who progress to university often demonstrate gaps in keys skills and learning behaviours that are necessary for navigating HE. Students unaccustomed to independent learning have been found to struggle with exercises requiring critical thinking and problem-solving skills, particularly those in their first year of university (Jones et al., 2015).

To reiterate, more and more students are entering university and it has been posited that many of them lack the key skills required to quickly adapt to HE learning context, thus challenging the capability of academic staff to effectively engage all students in deep learning activities. Relatedly, and as a consequence of the trend of massification in HE, large class sizes have become the norm, and at the expense of small group teaching and learning episodes – the vehicles by which opportunities for active learning traditionally occur (Cuseo, 2007; Griffiths 2009; Hornsby and Osman, 2014).

This is alarming, especially as Mills and Alexander (2013) indicate that the range for optimal class size is often perceived to be between five and eight students. Light (2001) infers that beyond this, learning and teaching in larger classes becomes problematic as contributions and participation begins to decrease. To support this, and drawing upon a substantial data set of 776,000 undergraduate student observations, Kokkelenberg, Dillon and Christy (2008) identify a correlation between incremental class sizes and declining student attainment. Additionally, students can often feel 'lonely and isolated' in large classes whereas small group learning activities provide a safer and more inclusive environment for students to develop a sense of belonging and feel comfortable in contributing in front of their classmates – this is an issue particularly felt by first year undergraduate students and which can track into their second and third years of study (Chesterman and Rhodan 2005; Rhoden and Tursky Gordon 2000; Newman 1993). Bennett (2003) suggests that such feelings of loneliness and resulting low self-esteem can lead to poor grades between the transition from first to second years of undergraduate study and consequently contribute to student attrition.

The aim of this small-scale piece of research, therefore, is to evaluate the efficacy of a pedagogical intervention on a first year undergraduate cohort belonging to a university in the North West of England. This intervention adopted a student-led approach and was predicated upon the concept of the tutorless-tutorial (introduced shortly). This platform was to be termed as the 'student-led tutorial' (SLT), and involved students forming and meeting in small groups to engage with pre-set content prior to taught sessions such as lectures. The goal of the SLT model was to align the teaching apparatus to better enable students to construct their own learning (Mathieson 2015); thus, presenting a contrast to alternative and oft perceived impersonal and passive learning environments which have been suggested to compromise deep learning and diminish the quality of active learning opportunities (Biggs and Tang 2007; Chesterman and Rhodan 2005; Van Damme 2004; Light 2001; Rhoden and Tursky Gordon 2000; Newman 1993).

Deep Learning

In recent times, teaching and learning in HE has witnessed a shift from an objective to constructive paradigm. Objectivist methods emphasise the transmitting and receiving of knowledge from teacher to pupil and are based on the perspective that knowledge already exists and is to be passed down and learnt independently of its true context (Biggs, 1996). However, a movement towards constructivism has seen university students take a more active

role in their own learning. In short, constructivist approaches are student centred, encouraging learners to construct their own knowledge and derive their own meaning by engaging in well-structure learning activities. Here, the teacher's role is to create effective learning environments and utilise a range of learning resources and technologies to support the student to construct their own learning in line with the desired learning outcomes (D'Andrea and Gosling, 2005). Teaching is therefore underpinned by the 'constructive alignment' of three key elements: planned learning outcomes; learning activities designed to achieve those outcomes, and assessments designed to measure whether learning outcomes have been achieved (Biggs, 2003: 30).

Scholars have identified three different approaches to learning commonly adopted by students: deep, surface and strategic. Students who adopt a 'deep' approach to learning actively seek to understand and engage with the topic in focus, motivated by interest they interact with, and explore the content of the subject at hand, placing intrinsic value in the learning experience. Constructivist teaching practices are therefore committed to the promotion of 'deep' learning whilst at the same time discouraging surface learning (Butcher, Davies, and Highton, 2006: 89). Secondly, students who take the 'surface' learning approach are primarily concerned with fulfilling the criteria required to pass an assessment, module, or gain a qualification. The strategies employed by 'surface' learners will prioritise memorisation of key information, rote learning and repetition of facts, concentrating on specific details and examples rather than the principles underpinning them (Lublin, 2003). The 'strategic' or 'achieving' approach as it is also known, transcends the dichotomy between 'deep' and 'surface' approaches. Utilised by the 'high flyers', students adopting the strategic approach aim to score highly in exams and assignments and in so doing are aware of assessment criteria, selectively choose their peers, and fully prepare and engage in all readings and learning activities (Fry, Ketteridge, and Marshall, 2009).

These three approaches to learning are not stable traits but can operate laterally on a continuum, for example, students who typically adopt a 'deep' approach to learning may revert to a 'strategic' or 'surface' or surface approach due to either a formidable workload or a low interest in a mandatory subject (Lublin, 2003). To facilitate deep learning, practitioners are encouraged to consider how they might effectively promote 'active' learning through the teaching methods that they choose to implement. As Butcher, Davies and Highton (2006) outline, active learning is stimulated in students when the activities that they are asked to perform incorporate 'doing' and processing, as well as building on learning and making connections with relevant material and concepts.

The Intervention

The focus of the intervention was to enhance learning within a core first year Sport Development[1] module. The background to the intervention was that the researcher had inherited leadership of this particular module ahead of the 2014-15 academic year. The researcher had, to a lesser extent, contributed some teaching to the module in the previous academic year. The cohort size for this former year group was 140 students. This module had been formerly run over one semester and the structure of teaching involved a back-to-back lecture-seminar (one hour each) on both Mondays and Tuesdays (four hours per week). After analysing learner evaluations of the module from the previous year and speaking with students who had been enrolled upon it, two clear issues emerged: a) that students struggled to concentrate on taught material over the course of a full Monday and Tuesday schedule (days on which all other first year modules were taught consecutively) and, b) that many students wanted to have more engagement with peers through group activities rather than having to absorb information for long periods of time.

For the 2014-15 academic year, the module in focus was elongated to span two full semesters instead of one. In doing this, four hours of student contact per week could be reduced to three, but delivered over a longer period of time. An adaptation of a tutorless-tutorial was introduced. Tutor-less tutorials are, as they sound, conducted in the absence of a tutor and are run by the students themselves (Pears 2007). The adapted version implemented here was termed instead as the Student-Led Tutorial (SLT). It was felt that the SLT more clearly positioned the role of the student in the activity. In addition, the sessions were not entirely 'tutorless' as a member of the module team was always present to trouble-shoot any issues and chair a plenary feedback discussion at the very end of the session – this was advised in a similar study by Hayashi et al. (2013) as it allows the tutor to monitor the progress and dynamics of the session. The structure of teaching meant that the first weekly hour-long session that students would have, would be the SLT, directly followed by the lecture and then the follow-up hour-long tutorial (seminar) would then run on the following

[1] The Sport Development degree programme is concerned with the contexts within which sports participation occurs and the resources and structures that exist to facilitate it. As a discipline therefore, Sport Development aligns more to the social sciences and management studies, than, for instance, the science of human performance in sport. Tutorless approaches have been adopted widely across the Computer Sciences and in medical schools, and similar applications have also been implemented in undergraduate Psychology programmes (Fonteijn, 2015). Despite limited mention of the use of tutorless learning platforms within the social sciences, Exley and Dennick (2004) suggest that they offer multidisciplinary utility.

day. This tutorial then brings together content and ideas from both the tutor-less session and the lecture, and proceeds to set-up the tasks for the following week. This approach draws a number of parallels with the flipped classroom concept, and which Fulton (2012) advocates because of its ability to engage learners and actively involve them in the learning process. SLTs were held in two large-teaching spaces each containing half of the module's 130 learners – with the SLT groups consisting of five students each. There were six seminar groups each containing 20-22 students.

Prior to the first tutor-less tutorial, students received an introductory session in which the tutor explained what the SLTs would entail, outlining the designated reading and tasks that were to inform the following week's tutor-less (SLT) group. Group contracts and ground rules were also created and signed by the five self-selected peers who had chosen to work together. As advised by Patterson, Carron, and Loughead (2005), students were instructed to set out ground rules for acceptable behaviour within a team and comprised both task related and social rules. For the first four weeks, the SLT 'tutor-less' sessions were guided by third year undergraduate student prefects who reinforced ground rules and iterated how small group sessions should be chaired. The opportunity to serve as a prefect was voluntary, and disseminated through a central tutor group system. To elaborate, all cohorts within the degree programme are divided into smaller tutor groups of approximately ten students each. These tutor groups meet weekly with their personal tutor who is also an academic member of staff. Once this selection process had been devolved through this network, students interested in the prefect position were to email directly to register their interest. The preparation given to the student prefects involved an initial meeting with the module leader in which the purpose of the SLT was explained to them and advice was offered as to how they might support small group discussion. The main guidance was to introduce themselves and attempt to establish a rapport; to try not to provide direct answers to conceptual or contextual questions, but instead to guide students towards them themselves through prompts, probes and recall-based questions. What was keenly stressed to the prefects was that they presented an important opportunity for the first year students to 'model' their group behaviour on, by, for example, bringing quieter students into the debate, positively reinforcing the comments proffered, and returning critical but constructive questions about the points made back to the group.

Rationale for the Design and Implementation of SLTs

Tutor-less tutorials are designed to promote and support students' own self-directed learning. It is the 'active interpersonal communication' between peers that enables them to learn with and from other students, thus promoting deeper learning (Dennick and Exley 1998, 112). In applying an understanding of how people learn, the incorporation of tutor-less tutorials demonstrates how evidence-informed approaches can support the development of students and their learning processes. Furthermore, the SLTs are able to adopt the small group teaching principles acknowledged by Mills and Alexander (2013) as they enable the division of larger classes into smaller learning units within which each group is committed to working together and every individual can benefit each other's knowledge and experience.

To explicate how this occurs, by providing students with pre-set reading and associated tasks to inform the tutor-less sessions, cognitive processing is triggered as the learner selects and acquires knowledge (Fry, Ketteridge, and Marshall 2009). Building these cognitive structures complements the socially constructed learning which takes place in situ and causes students to assimilate and take in new information whilst modifying prior understandings through the active learning process (Fry, Ketteridge, and Marshall 2009). What is more, it is common for students to struggle to grasp theoretical concepts and perspectives that are either new to them or different from their own, and Meyer, Land, and Baillie (2010) refer to this as 'troublesome knowledge'. In traditional taught classes, the learner might approach the teacher for the direct answer to the problem, whereas Meyer and Land (2006) advise against this, arguing that students need to overcome these 'threshold concepts' for themselves. Therefore, the SLT presents an ideal pedagogical strategy by which to suitably challenge students, whilst supporting them enough to arrive at the answers that they seek. Schmidt et al. (2007) add that such conceptual challenges facilitate group cooperation and individual persistence as the cognitive load is shared. This balance is important as Laurillard (2013) cautions that although educators argue that undergraduate students should develop their own point of view and be critical within their subject, teachers still expect responses that resemble pre-defined 'correct' answers – and so their learning should be appropriately scaffolded as such. The goal of the SLT here is to motivate students to take greater responsibility for their learning whilst providing them with a balanced structure of teaching that encourages them to challenge popular assumptions with well-rounded critiques, yet to do so within a broader safety net of clearly defined learning outcomes and content (Mills and Alexander 2013). This balance is that the discursive and student-led nature of tutorials – unfettered by frequent teacher directives – are buttressed by the more didactic follow-up lecture (Mills and Alexander 2013). Any lingering clashes or

confusion can be discussed and negotiated in the next day's seminar of which the aim is to clarify and close the weekly teaching block.

Akin to the flipped classroom concept, a further advantage of the tutor-less tutorial is that they allow for the preloading of theory (Towle and Breda 2014). To elaborate, the ideas, literature and arguments explored in the sessions not only help to centre students' focus but it also primes them for the lecture and follow-up tutorial. This means that students are more likely to activate prior learning in both the lecture and tutorial, and feel better equipped to participate (Exley and Dennick 2004). Therefore, the tasks and activities performed in the tutor-less tutorials aid comprehension and reinforcement of subject content, and also enhance memory and recall (Norman and Schmidt 1992). This in turn potentiates future learning as students begin to connect themes, threads and ideas.

The tutor-less tutorials were set-up and monitored by third (and final) year prefects, as well as a staff member, to ensure that all participants are respectful of individual learners, conduct themselves in an inclusive manner and encourage participation of all students. To achieve this, students were instructed to ensure an evenness of contribution, to treat each other respectfully and feedback on their discussion and group process after each episode to improve group dynamics through reflection. As a consequence, learners and their learning communities are developed through improved confidence, oral communication skills and participation (Sweet and Michaelsen 2012). As a natural by-product of the tutor-less process, Van Damme (2004) states that the small group experience stimulates students to form 'study groups', a habit that continues throughout the degree programme. In sum, tutor-less tutorials have been purported to help to drive active learning and self-directed study, and encourage students to be proactive about their studies. According to Hayashi et al. (2013), teaching and learning research in the biomedical sciences undertaken to study the efficacy of student-tutored problem-based learning sessions has been reported to be as effective as staff-tutored lessons, regardless of whether those students are senior level or peer-level.

Methodology

This research adopted a mixed-method approach by drawing upon questionnaires and focus groups. The first wave of the data collection involved administering questionnaires to SLT group A (1 of 2 groups – group B containing 68 students) during their first student-led session. Group A was selected as that was the class that the researcher was overseeing. This group consisted of 62 students and this survey was to provide baseline information around

student understanding of what SLTs entailed as well as their general opinion of the concept. The questionnaire was handed out alongside a participant information sheet, and it was made clear to students that completion of the survey was entirely voluntary.

The second wave of this research followed the same procedure as the first, with the researcher administering exactly the same questionnaire to group A in the final SLT of the module. This longitudinal cohort study design was selected in order to compare students' perspectives of the SLT mode of delivery and how it might influence their learning over the course of this taught module. The first wave of the survey was administered on 6th October 2014, and the follow-up on January 26th 2015 (this survey component therefore spanned 16 weeks). The questionnaire was made up of a mixture of closed and open questions. The closed questions simply sought to find a definitive quantifiable answer as to whether students had felt that the SLTs had supported their learning on the module. Open questions were included in the survey also to provide respondents with the opportunity to express in more qualitative depth why particularly the SLTs worked for them, or on the contrary how SLTs could have been improved and if they were worth improving.

The final request on the questionnaire was for students who would be happy to attend a focus group to discuss their experiences of and perspectives on the use of SLTs, to write their email address in the box provided on the form. Nine students provided their contact email and five responded to and accepted an invitation to participate in a single focus group (on campus) within a fortnight of the module ending. Focus groups allow researchers to conduct group interviews in a semi-structured fashion (Gratton and Jones 2004). However, only a few discussion areas can be covered in a short space of time when using focus groups, although they can provoke clashes of opinion or experience. Nichols and Ojala (2009) advocate the use of focus groups as the interactive and collective nature of the method is likely to bring about reflection of a topic with which participants have a shared knowledge and which is capable of stimulating insights that one-to-one interviews might be unable to do. In addition, focus groups provide a social event which invites and involves open discussion on a common experience or interest that can evoke 'consensus or clearly defined disagreement' on the subject matter (Ralston, Downward, and Lumsden 2004, 18; Frey and Fontana 1993; Kreuger 1998). The use of this research technique was intended to encourage students to discuss and compare their experiences of and thoughts on the SLT structure and process, as well as their understanding of the purpose of this learning format. However, Morgan and Kruger (1998) warn that a limitation of the focus group dynamic can lead to an

overemphasis on negative aspects of the discussion topic when a balanced and constructive account is sought.

The focus groups were carried out by the module leader, who is also the author of this research article. In this situation, it is difficult for the researcher to mitigate against the possibility of participants exhibiting social desirability bias (Veal and Darcy, 2014) to endear themselves to one of their tutors or to simply be considerate towards them. Although this presents a methodological limitation, focus group participants were recruited due to their decision to voluntarily sign up for the event via the anonymous questionnaire, in full knowledge that the author would be leading the group interview. It was also made verbally clear to students that the evaluation of the SLT was for the purposes of its improvement.

Combining questionnaires with the focus group enables the triangulation of data as it allows for the checking of findings received from one form of study against those that emerge from another (Bryman 2012). In addition, the findings gleaned from the questionnaire data assist in the choice of subjects to be broached in the qualitative research that is to follow. Furthermore, the complementarity of data gathered from this mixed-methodology offers insight into both the structure and process of the delivery of SLTs and how these two elements combine to inform student learning.

The survey (see appendix 1) consisted of a single closed question, which was tallied up and calculated into a percentage, and six additional open-ended questions. The open-ended questions were subjected, on one level, to content analysis to count and categorise responses. Using content analysis of the survey data in this way yielded basic categories by which to both guide the post-intervention focus group and base a thematic data analysis framework upon. Basic thematic analysis was also employed to assist this process, and to analyse open questions for explicit or latent references (codes) in order to note and explain patterns and recurring themes across the data. As an example, two of the main categories that emerged in response to the open filter subsumed within question 4 of the survey (see appendix 1), were ‘developing knowledge and understanding’ and ‘peer-to-peer collaboration’. That the survey data facilitated the structuring of the focus group meant that the rigour of the data collection process was enhanced. This is because the use of content analysis has previously been maligned as it can lead to a detachment of meaning from context, however, the implementation of a follow-up focus group helps to mitigate against this through the exploration of lived experiences which are fully grounded in context (Joffe and Yardley, 2004).

The focus group was recorded and audio data from the interviews were transcribed verbatim. As mentioned previously, the survey data revealed three central categories themes: student comparisons of SLT with other teaching methods; benefits of SLT to learning experience, and challenges of SLT to learning experience. To this end, the central themes that were selected as higher level categories for analysis of focus group data were deductively gleaned from the survey data. To undertake this process, codes (or labels) were attributed to small units of text such as words or sentences which represent observable themes for the purposes of categorising data, and in so doing operationalising the broader theme(s) within which they connect (Joffe and Yardley, 2004). As an example of such a coding procedure, students commented that the SLTs benefited their learning by: a) influencing them to 'read more', and by b) 'peer-to-peer collaboration'.

When writing up the research findings, quotations derived from the data analysis process were used to illustrate the key themes that emerged from the research. All aspects of the data collection for this research were conducted on university grounds with consenting students aged 18 years or above and who were made aware that their participation was entirely voluntary and that they were free to withdraw at any point. It was also made clear within the participant information sheet and consent form that it was the researcher's intention to prepare the resulting findings for publication. All participants that have been quoted within this article have been given pseudonyms for anonymity.

Findings and Discussion

Perceived function of SLTs

From a class of 62 first year undergraduate students, 63% (39) completed the baseline questionnaire, and 69% (43) completed the follow-up questionnaire 16 weeks later. As this was a novel and unfamiliar teaching format for students, it was important to assay students' perceptions of what the SLTs might be and what they might be designed to do. To do this, question 1 (Q1) on the survey asked: 'What do you understand the purpose of the Student-Led Tutorial to be?.' Between the baseline and follow-up surveys, responses were quite similar but there did appear to be some development between the two. The responses to Q1 of the survey were counted and coded to provide

a basic level of content and thematic analysis. This data is presented in the wordles below (Figures 1a and 1b).

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Figure 1(a). Baseline Wordle – question 1 Figure 1(b). Follow-up Wordle – question 1

All respondents attempted to answer question 1, and at both stages of the survey. Student responses in the follow-up survey tended to be more detailed than for the baseline, as demonstrated by the denser Wordle in Figure 1b. Responses from the first wave more typically suggested that the purpose of the SLTs were for students to 'share' or 'bounce ideas off each other' through 'student-led' discussion. However, there is a shift in the key terminology used within the follow-up questionnaire, with many students citing that the SLTs are designed to encourage 'students to take more responsibility for their own learning', and that they (students) needed to be 'active members' to get the most out of the sessions. The term 'learning' was a particularly prevalent reference across the follow-up survey responses, and the role of the SLT in achieving this can be captured from the following written response to Q1 (follow-up survey):

> The purpose is to communicate ideas with our groups on different topics to get the best possible learning.

Such notions were often wrapped in the narrative that each student was responsible to their group and vice versa, to contribute, help and challenge each other, as enunciated in the following statement (follow-up questionnaire):

> To learn from each other and push students to get them to come to a conclusion on their own.

Perceived efficacy of SLTS

To connect the perceived function with the perceived efficacy of SLTs from the perspective of participating students, question 4 ((Q4) the single closed question on the survey) asked:

‘Do you think that the student-led tutorials have supported your learning and understanding of the weekly module content?’ students answered as follows (see Figure 2, below):

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Figure 2. Students’ perceived efficacy of SLTs: baseline and follow-up data

All participating students answered Q4 at both stages of the survey. As illustrated in Figure 2, in both rounds of data collection the majority of students believed that ‘yes’, the SLTs had aided their learning. More importantly, there was an increase in this belief across the class between the baseline and follow-up surveys by 11% (from 58 to 69%), with the percentage of students both unsure and voting ‘no’, decreasing. A filter question followed this closed question, asking students to briefly explain their response. In the baseline survey, only one participant – who had responded ‘unsure’ to Q4 – did not provide further comments here. In the follow-up survey, 11 students opted not to offer further comments to this filter question with nine students answering ‘yes’ and two students answering ‘no’ to Q4. For those students who had stated that they believed that the SLTs had supported their learning, the leading reasons for this in both waves of the survey were categorised as ‘developing knowledge and understanding’ (19 instances recorded in the baseline survey and 28 instances in the follow-up). The primary reasons offered for such learning were attributed to the interactive nature of the SLTs and the opportunity to ‘exchange, discuss and explain ideas and content with peers’ (17 instances in the baseline survey and 31 instances in follow-up). These references were supported in the focus group as Rob, Tim and James entered into a discussion identifying why they found the SLTs useful:

> It’s more interactive, you can talk to each other. Sometimes you go off topic but it gives you a little break and then you come back to the work. (James)

> It’s quite handy because you can either teach others, which helps you understand the work more, or they can help you if you’re struggling with a particular topic. (Rob)

> I think personally it has supported my learning when I've done the questions and have done the reading, when other people in the group have as well. (James)
>
> It encourages you to read a lot more, like gets you into a routine of actually reading (Tim)
>
> Yeah, it is easier after you've read a couple (the readings), the next few just seem to roll off (James)
>
> Yeah, you get used to the sort of language that they (authors of the set readings) use, and how to find them and look them up, and so when it comes to doing actual essays you know how to use them (Tim)

This passage of discussion revealed some interesting insights into the students' experiences and impressions of the SLTs. James began by commenting that SLTs naturally had an undulating nature of time-on-tasks and off-topic 'breaks' which seemed to help him rest and refocus before resuming task-related discussions. Such an informal and flexible approach to group-work suggests that students (those that have prepared for the session) can be trusted to complete tasks in their own time without strict prompting from tutors. Positively, the students in the focus group agree that the structure of the SLTs supported their study habits, helping orientate them with the level and types of readings required, as well as how to go about finding such sources. Of further interest from this passage of discussion, and linking to the data from the questionnaires, the students like that the SLTs promoted the helping, sharing and teaching of and from their peers as this helped to either reinforce or clarify knowledge and understanding. Becoming increasingly popular in the HE context, there is an expanding evidence-base endorsing the effectiveness of various modes of 'peer-assisted learning', teaching and learning strategies not too dissimilar to those employed within the SLTs and in which students "learn with and from each other" (Boud et al. 1999, 41; Sweet and Michaelsen 2012; Hayashi et al. 2013). Collaboratively taking turns to teach each other important concepts, theories and frameworks helps the student 'tutor' learn information actively and deeply through the process of teaching others (Evans and Cuffe 2009; Fry, Ketteridge and Marshall, 2009). In this setting, McKenna and French (2011) highlight that the emotional support that students receive from their group whilst teaching their peers helps

to develop their self-confidence and sustains their motivation for further learning and engagement.

Areas for improvement

The reasons why a small minority of students selected 'no' to Q4 of the survey – that they did not believe the SLTs enhanced their learning – had shifted from baseline to follow-up surveys. In the baseline survey, six students found the 'readings too hard' and this made answering the preparatory questions difficult to complete. However, in the follow-up survey, and connecting with the focus group data (above), none of the respondents cited the complexity of the readings; in fact, there was typically crossover in the responses provided for 'no' and 'unsure' with the majority of open answers beginning with an 'if'. To elaborate, there was a consensus amongst students who circled 'no' or 'unsure' that there was an important caveat surrounding the efficacy of each SLT group/session, and this was that the tutorless-tutorial did work if all or the majority of group members embraced the concept and engaged with the pre-set readings. This issue was corroborated in the focus group discussion, as Lucy comments:

> It can be impractical if only a couple of people have done the reading. If you turn up having prepared but others haven't done the work, then it can feel like all that effort has gone to waste a little bit. But, it definitely does work if people have prepared and engage with the tasks. (Lucy)

This was an issue that was repeated by a number of members of the focus group and which seemed to breed some resentment. Such comments demonstrated the 'othering'[2] of non-participating students by those who made efforts to actively engage in the SLT medium:

> It's their fault that… It stops us progressing further by them basically distracting us so don't bounce off each other as the people who have done the work do. (Rob)

> Sometimes, you feel like you're doing all the work and it becomes quite frustrating if they keep doing it (not doing the preparatory tasks/readings) because they're getting all the answers from our work. (Tim)

[2] When one group distances themselves from another by defining and often stigmatizing the other in their own interests, in order to secure and enhance their 'higher' position (Roberts 2012)

It is clear that the greatest source of frustration for those students who did engage fully in the SLTs was the lack of participation and preparation by some group members. Conceptualised within related literature as 'freeloaders', students who do not contributed equitably in group-based scenarios are perceived to benefit from the hard work of others, and have been found to have a similarly negative influence on group dynamics (Bryan, 2006; Mellor, 2012). Unfortunately, the impact of ground rules and contracts that were drawn-up and signed by each group prior to the commencement of the SLTs – in order to engender team cohesion, commitment and participation – seemed to be forgotten very quickly, as Tim reports:

> Towards the end, people started picking and choosing which ones they go to based on whether they had done the work. They made the decisions themselves instead of thinking of the group. (Tim)

Like any other teaching format, SLTs were a formal and timetabled class that students were expected to attend. A clear expectation was outlined to students that they were each individually responsible for the efficacy of their group collaborations during the SLTs, and that the tutor would provide only light touch facilitation of proceedings. However, based on the participant data collected, contributions varied amongst students and amongst SLT groups. There was no mention of the group contracts and ground rules across the surveys or within the focus groups, yet it can be inferred from the data that this strategy failed, at least towards the end of the module. Fry, Ketteridge, and Marshall (2009) recommend referring to and reiterating ground rules and the agreed procedures when such problems arise, and this was perhaps not done often enough by the tutor/s.

Possible solutions

As a potential solution to the inconsistent attendance and contributions of some of their peers, Rob and Ben suggest that to ensure that all students that attend have suitably prepared for the session, the specified size of each group might have been reduced:

> If it was done in smaller groups, with the lecturer stepping in a little more often, it would be ideal. With a smaller number of people that have done the work. (Rob)

> If it was done in smaller groups of people who have definitely done the work so you're less likely to let people down. (Ben)

In the passages above, Rob and Ben implied that decreasing group size would place greater onus on the group members to prepare, contribute and share evenly. To support such equitable contributions, Davis (1993) recommends that the optimal group size would consist of 3-4 students – any smaller and the burden of assessed group tasks may become overwhelming. Rob also requested that the tutors check on individual groups more often and there was consensus amongst the group that the purpose for doing this would be twofold: as a means of surveillance so that students would be found out if they had not come to the SLT prepared, and second, to check for understanding amongst the group and reinforce the relationship between content and relevance to assessments. To facilitate this, Mellor (2012) advocates that the tutor schedules regular short progress meetings with each group as this would: a) help to mediate any concerns about 'freeloading' and, b) to provide clarification and feedback in relation to students' work as a means of assessing learning, affirming students' ideas and further empowering students to continue to learn autonomously.

One further point that emerged in the open filter question following an 'unsure' response to Q4 of the follow-up survey, was that students would have liked to have the content of the SLTs to be more explicitly linked to the module's assignment tasks with six students citing that they would have liked 'to know that the content feeds into assignments'. Such comments connected with dialogue that occurred in the focus group when students were asked how the SLTs might be improved:

> Yeah, to get people doing more, I think there could be something more from it sometimes. So, you can read it, answer the questions and that's sort of it for that paper. If there was some further development on that then you would be forced to read it because you'd need to know what's in the paper. (James)

> I think that when you come to do the assignments and stuff, because, when you did it at the time you don't realise how useful it is to your assignments. But, when you do the assignment it all makes sense and it comes together. You remember parts of the readings from what you are doing and it all makes sense, and now obviously it falls into place. But at the time, I don't think people are thinking about the assignment that far in advance. If you can go through it with us more closely so we can get the outcomes. So, we know how every reading helps us with the assignment. (Lucy)

James and Lucy highlight that their learning might have been facilitated further if tutors more directly outlined how each reading and SLT might inform assignment/s, intimating that this would help to further incentivise and motivate other students to engage more fully and frequently with the SLTs and preparatory tasks. Tim (below) concurred, adding that the proximity between SLTs and an assignment deadline caused him to focus his studies more keenly on the pre-set readings and SLT questions, and in doing so, this boosted both his comprehension, retention and learning of that material:

> I do remember the Nick Rowe article from going through in an SLT, I remember looking at it and it clicked from the stuff that I have done in the student-led tutorial. That was closer to the assignment and I used it a lot in the report, but I might not have necessarily taken as much in in the SLT if I didn't know that I would haven't been working with it so closely for the assignment. (Tim)

As an adaptation of the tutorless-tutorial, the SLTs were designed to promote active learning and in turn, deep learning. Tim's comments encapsulated the mind-set of the focus group participants – which is that they were generally happy with the SLTs and were satisfied with their learning experience, provided that everybody prepared and contributed evenly. However, Tim and Lucy made it very clear that student engagement in SLTs very much remained contingent on their perceived association and relevance with the module assignments. Many of the student respondents in the current research demonstrated a strategic approach to their learning, placing emphasis and their efforts on the 'test' rather than the 'content'. In analysis of James, Lucy and Tim's comments, comparisons can be drawn with the 'learning cycle' that Moog and Spencer (2008) suggest can be elicited in students by the implementation of 'process-oriented guided inquiry learning' activities by tutors. According to Moog and Spencer (2008) such guided active learning strategies engage students first in *exploration* exercises wherein they attempt to explain or understand new information. Once students have developed a mental framework from which to hang new terms and theory, they are then able to undergo *concept invention* by attaching novel information to existing mental constructs (Moog & Spencer, 2008). Finally, and armed with new understandings and conceptualisations, student are eager to *apply* their new knowledge to alternative situations through a process of deductive reasoning (Moog and Spencer, 2008). When mapping James, Lucy and Tim's feedback onto this learning cycle framework, the weakest link would appear to surround the application phase of this process during the SLTs. In order to facilitate this, there would appear to be a number of opportunities available to the tutor. One would simply

to be to more tightly consolidate the links between the content within the readings and the assignment in plenary at the end of the SLT. A further option would be to reduce the number of SLTs and use the remaining sessions to more closely sensitise students to alignment between the readings and the assignment/s. However, perhaps the most potent option would be to slightly shorten the SLT and schedule it directly prior to the follow-up seminar whereby students could more immediately apply what they have learnt from their reading-based tasks. Overall, the findings presented here suggest that the SLT, with some refinements, can temper the narrow focus associated with this learning approach by helping students to internalise and reinforce key concepts and draw stronger associations with their prior reading and group discussions – processes which are akin to deep learning (Fry, Ketteridge, and Marshall 2009).

Conclusion

This intervention was implemented in order to offer a partial solution to a dual teaching problem. First, that undergraduate students, particularly first year students, often demonstrate passive learning tendencies in which they take in and accept the information presented to them by their teachers, and this is said to restrict the quality and depth of their learning (Van Damme 2004; Biggs and Tang 2007). Second, that class sizes in HE are growing, meaning and that the opportunity for quality small group teaching, and in turn the strongest opportunities for active learning, are diminishing due to increasing student to staff ratios (Griffiths 2009). These two issues combine to present a greater challenge to university teaching staff and their ability to ensure accessible and quality learning experiences for all students. To this end, this research aimed to examine whether student-led tutorials – a teaching method adapted from the tutor-less tutorial concept – could provide an effective solution to this problem by offering a platform that could offer a bridge between the more traditional large group lecture and small(er)-group seminar/tutorial.

From the data collected and the findings discussed, the concept of the student-led tutorial (SLT) does offer a mechanism for supporting student learning, yet it is not without its flaws and tensions. Students appeared to grasp the concept of the SLT quickly, understanding that it is a format designed to encourage them to take greater responsibility for their own learning and that the collective engagement and contributions of the group drive the learning that takes place within it. In fact, it is the interactive and interpersonal nature of the SLTs that students perceive as key to their learning within the sessions. With 69% of students who completed the follow-up survey agreeing that SLTs ‘supported their learning and understanding’ on the

module, it is reasonable to suggest it is a teaching method worth developing. However, there are a series of recommendations that can be drawn from the data collected that may help to improve the effectiveness of the SLT platform, these are:

1. The group contracts and ground rules appeared to have a lifespan that wore off fairly quickly as a number of students began to 'pick and choose' which SLTs to attend, or some students would not prepare appropriately for the sessions. Instead of placing students in fixed groups from the first session, groups should be formed at the beginning of each new session and based on the level of preparation performed. For example, and depending on numbers, one pool of students might consist of all of those who had completed the readings and questions, a second would have those who have only performed the reading, and a final pool would be made up of those students who had not done either tasks and would have to catch up. Each of these pools would then be allotted to one of three neighbouring and pre-booked classrooms (facilities permitting).

2. Many students are strategic in how they approach their studies and therefore they want to see the relevance of their efforts immediately and understand how they feed into their assessments. In this case, running 12 SLTs in a module that spanned the full academic year was perhaps too many. Perhaps half of this number would be nearer an optimal amount as the content and readings are tailored more tightly and explicitly around the assessment topics. In addition, the SLT session might be more impactful if they occur directly prior to a seminar session.

3. In connection with point 2, students enjoyed the autonomy and freedom offered in the SLTs and they liked to feed off and debate with their peers, but only to an extent. Students naturally found some topics, readings and questions difficult at times and this often left them and their groups uncertain of whether they had answered or interpreted certain issues appropriately. Even when students were able to comprehend and process content, they were not always as readily capable of connecting it to its place within the module or how it may have factored into their assessments. As Laurillard (2013) states, promoting active and responsible learners is commendable, but it is important that crucial delimitations are made in order to offer students a clear framework in which their efforts fit. Therefore, and in addition to SLT teachers

introducing and concluding the sessions, and prompting and probing the groups where necessary, there should be one or two further intervals where the entire class feeds back in plenary and the tutor can assess any concerns or issues which may serve to hinder student learning. Tutors may also try to build in to the module brief meeting points with individual SLT groups to assess progress and ensure team cohesion.

To iterate, survey respondents and focus group participants within this study have provided comments to suggest a strategic orientation to their own learning. Strategic learners are systematic and carefully select material that will deliver the desired grade in their assessment – they are capable of selecting both surface and deep approaches depending on the task (Biggs 1987). Therefore, this article posits that to assist strategic learners to perform well, or to 'trick' surface learners into a deeper level of learning than they are accustomed to, 'tutor-less' platforms such as SLTs provide a combination of tasks and peer interaction which initiates an unavoidable form of active learning that is crucial to the development and understanding of the student.

In reflection of the research process and design, the study would likely have benefitted from a greater number of focus groups in order to ensure theoretical saturation. For future research on this or related interventions, between three and five focus groups would appropriate as David and Sutton (2011) state that no further original themes are likely to emerge from discussions as saturation is likely to have occurred. To further enhance this mixed methods approach, future research designs could request that students complete an Academic Self-efficacy Scale and a Locus of Control of Behaviour Scale during baseline and follow-up data collection points (Sagone and De Caroli, 2014). This would allow the researcher to: a) discern changes in students' belief in their own capabilities to organise and execute learning directed actions to bring about desired attainment, and b) gauge perceptual shifts in relation to whether the outcomes of student actions are chiefly attributed to the personal control of their study habits, or that such accountability rests with external factors such as tutor and peer input (Sagone and De Caroli, 2014). A limitation of such measures however, would be the ability to attribute causality to the SLT platform, when this method only forms one component of one module, within a suite of taught modules. Findings from focus groups would, of course, enable cross-checking and further analysis of such data.

Moreover, both the questionnaire and the focus group interview schedule were principally developed around the 'mechanism' of the SLT format and how this novel teaching structure impacted the students. Unfortunately, the role and influence of

‘supporting’ personnel, such as staff and student prefects, was not explicitly covered in the question sets provided within these methods of data capture – this was an oversight on the researcher’s part. Although, anecdotally, both the first year student learners and the prefects had positive experiences of and with each other, in hindsight it would have been fruitful to formally document such perspectives within the research design. To gather such information, a line of discussion that would have been insightful to instigate in focus groups would be around the role and impact of the student prefects that assisted the SLTs in the early stages of the module, and how their planned discontinuation after four weeks affected learners’ experience and retention. What is more, it would have been constructive to have gathered the views of the student prefects to explore their experiences of supporting the SLTs, what they understood their role to be, and how they perceived the first year students to engage with this form of teaching apparatus. By ascertaining this alternative perspective from the student prefects would have likely yielded a powerful feedback and feedforward mechanism to the module leader to develop the SLT concept further. Triangulating this richer suite of data capture methods alongside the plotting of student attendance against that of the prefects, may have also proved informative as to the efficacy of their input into the SLTs. Unfortunately, due to dissertation, exam and student placements in their final year of study, the prefects were largely unavailable at the point of qualitative data collection. Bolstering such a mixed-methods approach in this fashion would present an exciting avenue to further investigation.

Lastly, it would have been useful to have arranged interviews or a focus group involving the tutors that were present in the SLTs. The researcher consistently led SLT group A, however SLT group B was supported by two different tutors who alternated from week to week. Tutor accounts of the interventions that they had to carry out to assist and guide students, how they felt about the student prefects effectively sharing their role, and how they experienced a more ‘hands off’ approach to teaching would have presented rich data. There is certainly potential here for a follow-up investigation.

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Figures

Figure 1(a). Baseline Wordle – question 1 Figure 1(b). Follow-up Wordle – question 1

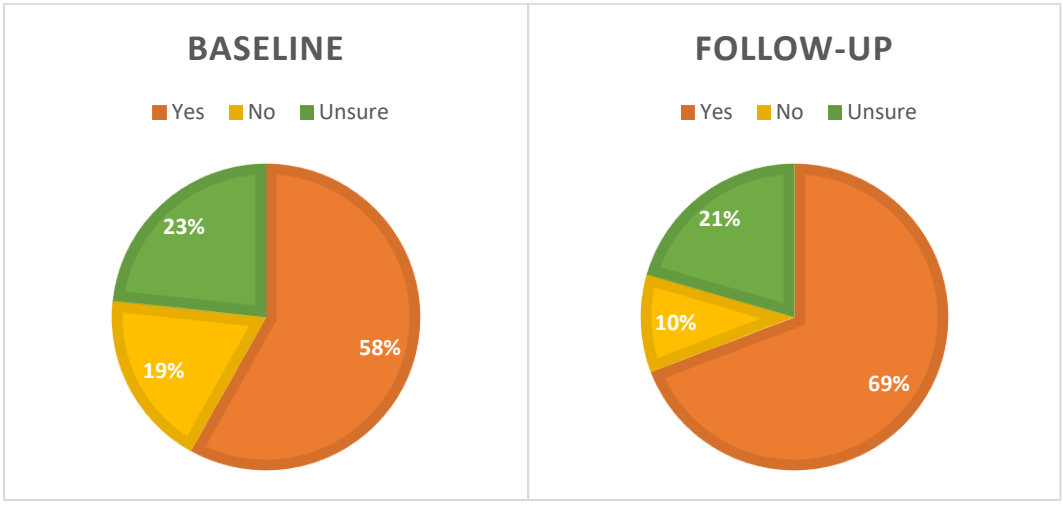

Figure 2. Students' perceived efficacy of SLTs: baseline and follow-up data

Appendix 1. SLT Survey Template

Student-Led Tutorial Survey

Date:

Q1. What do you understand the purpose of the Student-Led Tutorial to be?

_____
_____
_____

Q2. What do you understand your roles and responsibilities to be in the Student-Led Tutorial?

_____
_____
_____

Q3. How would you compare Student-Led Tutorials to other learning formats such as lectures and seminars?

_____
_____
_____

Q4. Do you feel that the Student-Led Tutorials have supported your learning and understanding of the weekly module content? (Circle answer)

YES NO Unsure

Please briefly explain your answer:

_____
_____
_____

Survey continues overleaf…

Q5. How has your participation in the Student-Led Tutorials influenced your study habits?

_____
_____
_____

Q6. What do you like about the Student-Led Tutorials?

_____
_____
_____

Q7. What do you not like about the Student-Led Tutorials?

_____
_____
_____

Please add any further comments that you might have relating to the Student-Led Tutorials:

Lastly, if you would be prepared to talk to the Module Leader about this topic for 15 minutes, at a later date, please write your email address in the box provided below.

Thank you for completing this questionnaire!