

An innovative approach to encouraging spiral learning for third-year undergraduates

Anne Emerson & Gareth J. Williams

A series of tutorials was re-designed to further engage students in spiral learning and highlight development of transferable skills. The tutorials focused on self-directed and enquiry-based learning, both of which provided particular challenges to students and staff. The students were randomly allocated a media article related to psychology as a focus to their studies and the module was assessed by presentation and report. Students were encouraged to work together to develop ideas and provide peer feedback on drafts of their work. Feedback from students was overall more positive about the module than in previous years, particularly in respect to the extent to which they were helped to develop transferable skills.

Keywords: Tutorials; spiral learning; real-world application; enquiry-based learning.

THIS PAPER outlines how we approached the re-design of a series of tutorials where the tutorials were not connected directly to a series of lectures. The module had been running for several years, and the revision was felt to be necessary due to negative student feedback which particularly commented that they did not understand the module's purpose or link to future employability. The plan was to address 'the need to prepare students to be independent and self-directed learners, skills which will stand them in good stead for subsequent employment and to become better citizens' (ILTES, 2006–2010, p.8). The emphasis of the module was, therefore, re-focused through increased use of enquiry-based and spiral learning. Feedback was collected from students and staff following the completion of both terms of the module and used to evaluate the changes.

The module

At Nottingham Trent University all third-year combined honours students took part in a 10-credit module entitled Integrated Perspectives (IP). With respect to the module learning outcomes and aims,

students would be able to address a psychological question that was complex and unfamiliar through independent research, be critical of the information, and to show how this could be applied to the real world. In terms of skills, they would be able to apply the knowledge they had learnt to the real world, use evidence in their evaluations, show organisation skills and teamwork, and use oral and written skills in addressing their question.

The module ran over two terms, with students attending a single introductory lecture which explained the learning outcomes and the format of the course and assessment, followed by fortnightly tutorials where the student to staff ratio was around 12-to-one. In the past attendance was typically high in the first term, when students were working towards their assessed presentation. They have usually not had access to a tutorial during their second year of study and have reported in feedback that they enjoyed working with other students. In the second term, when students were working towards an essay, attendance was generally lower and students were more likely to attend the early sessions than the later ones,

which they reported as being due to other commitments such as the need to work on their final year research project and also not seeing the benefit of this module. There are two assessments: a presentation that carries 35 per cent of the marks; and an essay providing the other 65 per cent.

The module did not seek to convey new information by lecture or other didactic means but rather requires students to utilise the knowledge and study skills they have already acquired or are continuing to acquire through other modules. As such, it promotes 'deep learning' (Biggs & Tang, 2007; Shale, 2001) and in accordance with recommended good practice for encouraging 'deep' learning, the teaching focuses on eliciting responses from students that value and build on what they already know and offer opportunities to 'construct knowledge' (Biggs & Tang, 2007). The IP module provides the impetus for students to 'master, transform and create knowledge' (Shale, 2001, p.68).

The problem

Traditionally a module may comprise a series of lectures or a series of lectures and accompanying small group teaching. In that way, content is delivered and, if there is small group teaching it is used to reinforce key aspects of the content or extend the content in some way. It is unusual and, therefore, more challenging, as there are fewer tried and tested templates to rely upon, to design a successful module where there is only small group teaching and only one orientation lecture at the start of the year. As such, the small group teaching cannot rest directly on the content disseminated by a lecturer in a separate large group context. Therefore, the students and tutors do not necessarily have a shared understanding of why the module exists or what purpose the module has in the programme. As noted by Bloxham and Boude (2007) 'the student's conception of learning and their intention when studying are central to the approach they take' (Bloxham & Boude, 2007, p.17).

However, a small group teaching-only module, where assessments are engaged with throughout the term, allows for a framework that can promote spiral learning. Bruner (1977) suggested that learning does not necessarily take place in a linear way, but rather 'deep' learning can be achieved through a spiral process where ideas are repeatedly revisited and built upon in more sophisticated ways until a full understanding is developed. Tutorials offer the opportunity to revisit the same material in a number of different ways, for example, when working towards a group presentation, or developing an essay plan. Part of this revisiting of material requires students to develop their ability to reflect on their ideas and their practice as academic thinkers and writers as well as to reflect on their experiences of the tutorials.

In recognition of the opportunity to promote spiral learning and that 'Appropriate assessment can encourage students to adopt a deep approach to learning, and the contrary is true for poorly designed assessment' (Bloxham & Boude, 2007, p.17), the problem has been in finding a suitable way in which the two assessments can be used to promote a spiral learning process through the tutorial series. Furthermore, the assessments were one way in which shared understanding was promoted in the module. In the past various approaches have been taken including having students consider the psychology inherent in everyday life through being assigned objects such as apples, pens, or packs of cards (inspired by Norman, 1988), or having the module closely aligned to the independent research project that each third-year student completes. While both previous approaches had various positives it was reported, through feedback from students and staff, that neither approach engaged the third-year students in a way that would help fully achieve the learning outcomes of the module.

The solution

The main change was to give each student a 'real life issue' to focus on through a link to

a relevant news item primarily from the BBC news website. The news items were selected on the basis that they were loosely connected to psychology and had sufficient material so that students could identify a range of possible topics. The articles were assigned, at random, to individual students who were then supported by the tutorial activities to think of the best ways in which the topic could be explored in terms of psychology. Topics ranged from the loneliness of modern society, through the learning of second languages, terrorism, use of CCTV, Facebook, food and train travel to nightmares and dancing. Within tutorial groups each student had a different focus article and there was little repetition across the cohort of 160 students.

A team of seven tutors taught a maximum of two tutorial groups each. Tutorials were scaffolded to support students in working towards the assessments with activities being applicable to the focus topics in general rather than linked to any student's specific focus.

The first term assessment was a short, two-minute, individual presentation. The brief was to focus on an aspect of the topic, to consider the primary psychological perspectives that related to it, and to use relevant theory and research to prepare a short individual presentation. This assessment was designed to address their learning outcomes related to their oral communication skills, independent research and critical thinking. Students were instructed to include theory from a range of perspectives, for example, if their focus article was primarily focused on social psychology they needed to consider what relevant information from perspectives such as biological or developmental could be relevant. Students were encouraged to be as creative as possible within the limits of time and resourcing. For students, the design and format of the slides, the quality of content, and the efficiency of the delivery had to be considered with great care and these aspects were discussed in tutorials. Students were encouraged to revise and re-draft their pres-

entation through the tutorial activities in the run up to the presentation, helping them to engage in a spiral learning pattern.

An additional aspect of the presentation was to have students consider an appropriate audience. Students were supported in their choice of an audience and how to tailor their presentation accordingly. This was so that students would be mindful of the learning outcome related to the real world application of their presentation. For the assessment, while many students chose to present to the actual audience (undergraduate psychology students) several were creative in choosing a range of audiences and adapted their material and delivery accordingly.

The need to mark up to 12 short presentations, all of which had follow up questions, within a tight schedule required considerable planning. In order to cut the time between presentations, students submitted their slides to a 'dropbox' in the virtual learning environment which meant every presentation was ready at the start of the assessment session rather than each student taking time to load their presentation from separate USB flash drives. As had always been the case two tutors were present to mark all of the assessments, followed by a meeting to agree the mark and feedback. However, the number of presentations required considerable focus and concentration on the part of the marker.

The second assessment was a short report based on material covered in the presentation which provided students with a way of engaging and exploring their topic further. This changed their focus from being about the issue itself to engaging in a more enquiry based learning approach to the topic. As Boud (1985) noted 'The starting point for learning should be a problem, query or a puzzle that the learner wishes to solve' (Boud, 1985; cited in Boud & Feletti, 1991, p.1). Having students begin the second term with the same topic allowed the content and argument of the report writing to be the focus of a revise and re-draft spiral learning pattern, facilitated by a series of tutorial

activities, several of which were designed to encourage peer review to help students with their reports.

Students were required to choose an issue related to their original article for the report. The assessment was targeted at addressing the learning outcomes related to independent research, applying a critical approach to findings in order to address a real world problem and to demonstrate the student's written communication skills. To emphasise the real world aspect, as with the presentation, students were required to consider an official body who would be interested in hearing a psychological solution to the issue. This aspect helped to raise awareness of the sorts of organisations that would be interested in acquiring a psychological perspective and often developed into work-related discussions. Together, the topic and audience served to address the learning outcome so that students were considering complex and unfamiliar problems and research questions in the report that they were writing. Students prepared plans for the report and were required to include a set of recommendations which had to be, as far as possible, feasible and realistic. Plans were subjected to student peer-review with an emphasis on the provision of formative feedback. Pairs of students read the plan of a third member of the group and worked together to complete a feedback proforma.

Tutorials were designed to support the students in preparing for the assessments. There was an emphasis on small and whole group discussion and teamwork throughout the module and to help initiate this the focus of the first week was ice-breaker activities encouraging groups of students to identify links between psychological perspectives and relating these to specific events. Students were also allocated their focus article and given preparation for the next session. In the second session students made brief presentations about their article to two other students and explained what perspectives they were considering including in their presentation in order to receive feedback. Additionally

each small group was given a topic and a non-psychology audience for which they had to prepare a presentation. The students needed to consider appropriate delivery styles and levels of information for different audiences such as primary school students, general practitioners, and school catering staff. This was followed by a whole group discussion focusing on the needs of different types of audience in relation to style of delivery, suitable props and type of information provided. In the following two tutorials more focus was placed on student's own topics allowing them to do practice presentations in small groups with an emphasis on peer feedback. During the fifth and last tutorial of the first term students gave their assessed presentation.

In the second term tutorials initially focused on the purpose and style of reports, looking at a wide range of actual examples from different sources. Students were given a proforma designed to encourage them to record all the information they would include in their reports. They brought this to the third tutorial of term and were given feedback by at least two pairs of students who worked together to review the proformas. The tutor also gave brief feedback, particularly in relation to the extent to which the draft would meet all of the criteria for the report, that is, relevant to an appropriate organisation, answering a question or issue by including a number of different perspectives that were well integrated and delivering a set of specific, practical and feasible recommendations.

Evaluation

Staff perspectives

Four of the seven member teaching team had taught IP for several years prior to the changes outlined. The new format was felt to better address the needs of the students although it presented practical challenges to staff. Staff acknowledged the challenges of marking such short presentations but felt that the approach was a worthwhile one to keep in future years.

Staff found students discussed and planned their presentations with great care and consideration of the key message they wanted their audience to take away. Staff saw this as way of motivating students to reflect and revise on their presentation content as, in order to stay within the strict requirements, students needed to carry out considerable amounts of editing and rehearsal to produce a coherent but short presentation.

Regarding the report, the feedback from staff was generally positive. There were few issues with the tutorial approach and marking. Although the process of working towards the report was novel for students, the approach to tutoring for staff was more straightforward as each tutorial was composed of activities that were the springboard for discussion. Staff reported that, as the students were exploring different topics, they were able to bring different viewpoints of the same underlying perspectives to tutorial discussions. This helped students see how psychology can underpin human experience, from a wide range of different areas. Staff reported that students were often not aware that psychology could relate to certain topics until they had studied the module. Using real world examples allowed students to bring personal experience and viewpoints to tutorial discussion and an opportunity for staff to challenge students to think about argumentation and evidence. As students explored their assigned topic in order to tailor the area to their question and to consider solutions for their target organisation, staff reported that students often developed a depth to their understanding of the relationship between psychological perspectives and topic areas. This newly built knowledge base allowed staff to encourage students to compare, contrast, and evaluate different perspectives with other members of the tutorial group and with different topics in the group so that the tutorial group, as a whole, was able to develop a more complete understanding of the role psychology can play in the real world.

Generally staff saw improved engagement by students both in tutorials and outside tutorials in e-mail discussion and that students showed a general willingness to approach unfamiliar topics and areas in psychology they may not be as proficient in as they engaged in the enquiry based learning experience. The task set proved complex and this encouraged higher rates of attendance in term two tutorials as students sought staff and peer support. Staff were positive about encouraging peer review and having structured activities that facilitated this in the tutorials was seen as very valuable in helping students reflect on their draft reports. The process of marking the report was much in line with the marking for other coursework. So although there was a diversity to the range of topics and ways students could devise solutions for their target organisations, staff felt comfortable when marking the reports that the end result was comparable to other written assessments.

Student feedback

Feedback was collected from students after both assessments. The feedback forms used asked students to rate aspects of the module (enthusiasm of the tutor, degree to which students were given support, whether they were learning relevant work skills, and their enjoyment of the assessment and the module overall) on a five-point scale. In addition three open questions were asked, what they liked most and least about the module and whether they had further comments. The evaluation was in the form of feedback on the module rather than collected for research purposes, and, therefore, brief to encourage all students to complete it, in recognition that students are repeatedly asked for feedback, for example, for every module they undertake and their course as a whole. At the end of the first term following the assessed presentation feedback was mostly collected during tutorials. Distributing feedback sheets in class ensured a higher return rate, however, it was also more likely to render positive results as anonymity

could not be ensured. It is often considered that feedback is best collected anonymously if it is to be objective and honest (Biggs & Tang, 2007). At the end of the second term feedback was collected during the last tutorial, but since this was scheduled as a ‘drop in’ for further questions before submitting the assignment a smaller number of students attended, and the cohort were therefore also referred to an online survey. Although this also collected a small number of responses they tended to be more negative than those collected during class, presumably as either, those who were dissatisfied were more motivated to respond, or because not doing this in front of their tutor freed them to report what they actually believed.

Table 1 shows the percentages of student responses to the feedback questions following the assessed presentation at the end of the first term and before the hand-in date of the report at the end of the second term. Students’ assessments of both tutor enthusiasm and of support given remained high throughout. It appears then that, of the two terms, the presentation was considered more relevant to work skills than the report. Overall, there were falls in scores for both enjoyment and overall module evaluation by

the second term. The quantitative findings were mirrored in some of the qualitative responses that are reported below.

Qualitative feedback

Students were asked to respond to the open question of what they had enjoyed about the course and the quotes below were from the feedback that students gave in 2011. Sixty students responded to the first evaluation and 28 to the second. Since feedback was delivered anonymously it is not possible to know how many of the students responded to one only or both calls for feedback. Qualitative feedback was grouped into themes. In terms of what students liked there were 23 comments within the category of support, tutors and working in groups including comments such as ‘The tutor I had was really helpful, calm and reassuring! Any questions I had were answered clearly and I really felt comfortable with what the tasks asked’ and ‘The tutor was very enthusiastic about the topic and was extremely helpful if a student was unsure about the tasks which they were given’. Of the 60 responses seven people wrote complimentary comments specifically about their tutor.

Table 1: Responses to each question in the feedback sheets for Term 1 and Term 2, as percentage of students.

	<i>Strongly agree</i>	<i>Agree</i>	<i>No opinion</i>	<i>Disagree</i>	<i>Strongly disagree</i>	<i>Means</i>
Term 1 (N=60)						
Tutor enthusiasm	50	50	0	0	0	4.5
Support given	30	59	7	0	0	4.2
Relevant work skills	5	50	20	20	5	3.3
Assessment enjoyment	7	35	20	18	20	2.9
Module overall	4	48	10	27	1	3.3
Term 2 (N=28)						
Tutor enthusiasm	43	50	0	7	0	4.3
Support given	33	43	10	10	4	3.9
Relevant work skills	7	25	22	29	17	2.8
Assessment enjoyment	0	32	17	29	22	2.6
Module overall	0	36	17	33	1	3.0

The second biggest theme of comments concerned working in groups, peer support and the interactive nature of the module. Comments included 'I like working in groups so we can provide each other with feedback' and 'It's very interactive and productive rather than just sitting in a lecture'.

Ten students wrote comments about liking the focus on multiple perspectives 'I enjoy incorporating perspectives of psychology to gain a broader view' and the last significant theme, with nine comments was independent learning. Comments included 'I enjoy the freedom to explore a subject in an independent way and thought the presentation was a unique way to deliver it' and 'I liked the change and freedom given to me to decide how I want to integrate different perspectives, as well as what perspectives I find interesting and relevant to include in my essay and presentation'. Students also commented that they liked being able to include information from their 'with' subject 'I enjoy learning to connect to all of the psychology and criminology together which will help me during exams and in the future'. They found the module different to everything else they had done and in many cases it had given them the opportunity to study an area they did not usually focus on 'Maybe it could be worth more credits for the year, increasing the amount of work involved as I really enjoyed adapting and working on my own creations'.

Seven students reported liking the independence of the module 'Freedom for interpreting our own work' and 'I liked the chance and freedom given to me to decide how I want to integrate different perspectives, as well as what perspectives I find interesting and relevant to include in my essay and presentation' and 'Having the scope to choose any aspect of the article given and expanding on it'. In addition there were eight favourable comments about being assessed by presentation; 'the presentation was enjoyable because it was different to a normal boring academic presentation' and 'I enjoy the freedom to explore a subject in

an independent way and thought the presentation was a unique way to deliver it'.

In terms of what students did not like about the module 29 students responded with a variety of comments about presentations, 19 of which just expressed a dislike of presentations in general and the rest complained about this presentation specifically in terms of time 'Short amount of time for presentation as it reduces ability for analysis in it'. In contrast to those who welcomed the opportunity for independent study some students found the openness of the module difficult. The second largest theme, with 15 comments, was the lack of clarity of the module. Students reported feeling unsure of what was required of them and wanting more guidance, for example, 'That I didn't know really what to do in the presentation as it was left to us to decide'. Another student commented they did not like 'the uncertainty of knowing if what I was doing was right or wrong'. There were also a few students who felt the module had not taught them anything new 'It doesn't really teach us anything we didn't know before. If you have reached the third year of a psychology degree and you don't know how to use an eclectic approach then you shouldn't be on the course at all'.

Thirteen comments to this effect were included in the 60 forms collected after the presentations although other students stated that they enjoyed and found the module beneficial. Despite having been assigned topics only two students expressed a dislike for the topic that they were given. Students again complained about having to work on this module at the same time as finalising their independent research projects 'Writing the report at such a busy time of the year for us' – despite the teaching for the module being completed before the end of term to facilitate early submission of the report. The majority of additional comments provided by students related to the structure of the module, for example, thinking that it should be delivered weekly in term one rather than fortnightly over two terms.

Overall some students still commented that this module did not teach them anything new and that they would rather be spending their time on their research project, particularly in the second term. However, there has been a shift from this being a majority view to a minority one. Staff agreed with the perception that the module would be better placed all in the first term but this may limit a student's opportunity to bring to the tutorials their new experiences in learning about psychology that takes place throughout the third year. One possibility that might address the workload is to reverse the order of the assessments. However, this had been tried in past years, and when the order of assessments was reversed there was no difference in the level of dissatisfaction at having another piece of work to prepare that was not directly related to the research project. Moreover, the presentation was more valuable to students as a springboard for exploring their topic in preparation for the report rather than as an assessment at the end of the module.

Further development

The changes made this year are felt to be an improvement and provide a foundation for further development. Having run this once, staff will be more aware of how to support students through their anxiety about not knowing what to do when they have to make choices about how best to approach the presentation and the report. Levels of self-confidence, what students believe about their own ability, their expectations of success and to what extent they feel in control of their learning, will have a considerable impact on what they eventually achieve (Green, 2001).

As a team we need to consider how to include more activities of the types the students report that they like, particularly regarding peer work, and communicate the value of the 'transferable skills' that tackling these assessments develops, especially for the report. These developments will be guided by the principle that the extent to which students benefit from tutorials is largely

determined by their perception of what is expected of them in the tutorial and the extent to which they understand the difference between 'deep' and 'surface' learning (Shale, 2001).

The Authors

Dr Anne Emerson & Dr Gareth J. Williams

Division of Psychology,
Nottingham Trent University,
Burton Street,
Nottingham, NG1 4BU.

Correspondence

Dr Anne Emerson

Senior Lecturer.
Email: anne.emerson@ntu.ac.uk
Tel: 0115 848 5536

Dr Gareth J. Williams

Senior Lecturer.
Email: gareth.williams@ntu.ac.uk
Tel: 0115 848 4125

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