Engaging students in quantitative research methods: An evaluation of Assessment for Learning strategies on an undergraduate social research methods module

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Teaching research methods in the Social Sciences

In June 2012 HEA Social Sciences held its first learning and teaching summit, which focused on teaching research methods in the Social Sciences (Further details of this summit, including papers and presentations, can be accessed via: http://blogs.heacademy.ac.uk/social-sciences/2012/09/10/teaching-research-methods/)

In December 2012 we commissioned 11 projects that were designed to explore further the issues identified at the summit. All the outputs from these projects are available via http://bit.ly/1jZe0Ft.

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Engaging students in quantitative research methods: An evaluation of assessment for learning strategies on an undergraduate social research methods module
Ciaran Acton and Bernadette McCreight (University of Ulster)

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Claire Gray, Rebecca Turner, Carolyn Petersen, Carole Sutton and Julie Swain (Plymouth University)

Northern Ireland by numbers: new open educational resources for teaching quantitative methods
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1. Introduction

There is a widespread assumption that sociology students have an aversion to numerical data and it is certainly the case that many find quantitative research methods and statistics courses difficult and peripheral to their degree subject. This poses particular challenges for methods teachers, who are continually looking for innovative ways to demonstrate the importance of quantitative research skills and to encourage the more reluctant students to engage with statistical information. While these challenges are long-standing, new opportunities have opened up with the recent pedagogic shift towards more interactive and student-centred approaches to teaching and an increasing emphasis on Assessment for Learning (AfL). This report describes the nature and outcomes of a Higher Education Academy (HEA) funded project designed to evaluate an AfL strategy employed in a quantitative research methods module taken by sociology undergraduates at the University of Ulster.

1.1 Project aims

The main aim of this project was to evaluate an undergraduate research methods module with a specific focus on the employment of a number of Assessment for Learning (AfL) tasks and activities. This evaluation took the form of a survey and a number of focus group interviews with students who have studied the module over the last two years. It is envisaged that the feedback obtained from this evaluation will lead to an enhancement of the student learning experience and assist in the development of a model of good practice for the teaching and assessment of undergraduate research methods. As the University of Ulster (UU) has a large proportion of students historically under-represented in higher education (45.8% of full-time degree entrants in UU in 2011/12 were from NS-SEC Group 4–7, compared to a UK average of 31.2%), it is anticipated that the outputs of the project will have particular relevance for those teaching research methods in institutions that prioritise widening participation.

1.2 Background to the module

There is a tendency for undergraduate quantitative research methods training to be treated as a stand-alone activity, divorced from the rest of the curriculum (Falkingham and McGowan 2012; Parker 2012; Payne 2012) and this, together with a frequent over-emphasis on complicated statistical formulae, has led to a high level of student dissatisfaction. By contrast, the quantitative research methods module taken by students on the Single Honours Sociology and Sociology with Criminology pathways emphasises the links with other modules on the degree and assumes no prior knowledge or experience of statistics. The module aims to provide students with the knowledge and skills needed to conduct quantitative research and to analyse and interpret results in a non-technical manner. It is one of three taught research modules on the degree and together with Qualitative Research Methods, and Research Methodology it serves as preparation for the final-year undergraduate dissertation module.

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1 This includes students on the Single Honours Sociology pathway as well as those on a Modular Pathway who have Sociology as their major subject (e.g. Sociology with Criminology).
Quantitative Research Methods is a second-year undergraduate module which trains approximately 70 students per year in questionnaire design, introductory statistics, and quantitative data analysis. The course is delivered through lectures, seminars and computer-based practical classes. Students attend one two-hour lecture per week where they are introduced to the core principles, concepts and procedures of quantitative research methods, from choosing a research topic, to questionnaire design, sampling, and interpreting descriptive and inferential statistics.

The weekly seminar classes allow students to explore the issues and concepts covered in the lectures in greater depth and also provide them with the opportunity to develop a range of practical research skills. Students are usually required to work in small groups to carry out a collaborative task or activity. In the early part of the course this revolves around the design of a social survey. Later in the course students are given the opportunity to interpret and critically assess a wide range of published quantitative research findings. The computer-based workshops give students practical experience and competence working with SPSS. Firstly, students undertake basic procedures of creating and manipulating data sets and conducting routine statistical analysis on real-life datasets. Secondly, students analyse their own data, based upon the questionnaires they have collaboratively designed, for inclusion in their final research report.

The module is assessed summatively through a research report and an end-of-module examination, although these are closely aligned to ongoing formative assessment strategy that is informed by the principles of (AfL).

2. Assessment for learning

2.1. Rationale for the focus on assessment for learning

The pedagogical benefits of an Assessment for Learning approach are well documented and the strategies this project focuses on have been developed in the context of the University of Ulster’s Principles of Assessment and Feedback for Learning (http://ee.ulster.ac.uk/assessment_and_feedback/). The seven principles (clarifying good performance; encouraging time and effort on task; delivering timely high quality feedback; providing opportunities to act on feedback; encouraging positive motivational beliefs; developing self-assessment and reflection; and encouraging interaction and dialogue) are based upon the REAP Principles of Good Formative Assessment and Feedback (see Nicol and Draper 2009; Nicol and Macfarlane-Dick 2006) and were introduced in 2011 with the aim of creating a new discourse about assessment and feedback across the institution. This project is also informed by Sambell’s (2011) work on AfL which draws attention to the need to reappraise the role of assessment in higher education and shift the balance away from summative testing towards more learner-oriented strategies that promote student engagement.

This attempt to establish a new balance in assessment and create a different type of learning environment (Sambell 2011) is designed to address some of the specific difficulties that sociology students typically experience with quantitative research methods. Although the vast majority of sociology students study quantitative methods as part of their degree, neither they nor their teachers are particularly confident about their ability to use these
skills after graduation (MacInnes 2010; Williams et al. 2006). MacInnes (2012: 7) also found that students were much more likely to employ qualitative rather than quantitative methods for their undergraduate dissertation and concluded that the neglect of quantitative methods in other modules gave students the ‘strong message that “quants” are not a core part of the curriculum.’

2.2 The application of AfL in research methods teaching

In recent years the course team has adopted a more student-centred approach to the teaching of quantitative methods, with an increasing emphasis on AfL throughout the module. Essentially this involves a shift away from traditional didactic methods of delivery towards more interactive, collaborative and dialogic approaches that place student engagement and activity at the centre of the teaching and learning process (Sambell 2011). While the introduction of the UU Principles of Assessment and Feedback represents institutional support for these changes it is nevertheless a gradual and ongoing process which requires careful monitoring and regular fine-tuning. While this approach impinges upon all aspects of the module, including lectures, seminars and workshops, at its core is a desire to provide students with a constant flow of feedback and encouragement. There are numerous examples we could explore by way of illustration, however for the purposes of this project the focus will be on three in particular.

2.2.1 Tutor and peer feedback on the process of questionnaire design

The seminars in this module perform two key functions. First, and in the early stages of the module, students are required to work collaboratively in small groups to design the specific questions for the module questionnaire. Second, and running throughout the duration of the module, the seminars provide students with the opportunity to explore some of the issues raised in the lectures and workshops. These seminars provide an ideal opportunity for AfL as there is the potential for collaborative group work where students can benefit from tutor and peer feedback, and the first few seminar sessions that focus on questionnaire design provide a good illustration of this. Students are divided into small groups and are required to choose a topic, operationalise their concepts and design and pilot five questions. They are made aware of the criteria by which their survey questions will be judged and attend lectures on questionnaire design and associated topics. It is important to point out that although the questions are summatively assessed as part of the overall research report, no marks are awarded at this stage of the process. However, this doesn’t seem to impact negatively on their level of engagement and the fact that they have to reach agreement with fellow group members and justify their choices and decisions to the other groups serves as a sufficient motivating factor. It is our contention therefore that the seminar discussions and informal tutor and peer feedback enhance students’ understanding of the practical and theoretical issues surrounding questionnaire design in a way that wouldn’t be possible with traditional methods of assessment.

2.2.2 Informal ‘no stakes’ assessment in SPSS workshops

The weekly computer workshops provide students with the opportunity to gain practical experience and competence working with SPSS and analysing real-life data. In the early stages this involves sessions aimed at increasing their familiarity with SPSS and undertaking basic procedures associated with creating and manipulating datasets and conducting various forms of statistical analysis. Students are introduced to a number of different datasets but
the main focus is on the Northern Ireland Life and Times (NILT) survey data as this is particularly relevant to the substantive issues they will cover during their degree. In the latter stages of the module, they undertake their own analysis, under supervision, of the data gained from the questionnaires that they have collaboratively designed. However, at various stages throughout the module students are informally assessed on their knowledge and skills of SPSS through quizzes and mini-projects that require them to carry out secondary analysis of existing data. In an attempt to minimise the pressure and anxiety that often accompanies quantitative methods assessment and to make this a more effective learning experience for students, the results do not contribute to the final module mark (see Boud and Associates 2012).

2.2.3 The use of personal response system (PRS) technology during lectures

The availability of personal response system (PRS) technology provided an opportunity to introduce a number of innovations to the lectures in order to align them more closely to the principles of AfL. Although PRS can be employed in many different ways to achieve a diversity of objectives, the rationale for introducing the technology into quantitative methods lectures was underpinned by two relatively straightforward aims. The first was to use PRS to assess students’ understanding of the lecture material (in situ), and to clarify those issues that students were having difficulty with. The ability to deliver timely feedback in this way is crucial in modules such as quantitative methods where students’ understanding of key concepts tends to be developed cumulatively. The second reason for employing PRS technology was to facilitate greater participation during the lecture and to encourage students to actively engage with the content by discussing difficult or complex issues with their peers. There are various ways in which this can be achieved but one approach is to present students with a piece of SPSS output and pose questions relating to the interpretation of this. Students are encouraged to discuss the SPSS output with the person next to them or in small groups and to try to reach a consensus on their response. If the variables are carefully selected, and sociologically interesting datasets such as the NILT are employed, this can generate lively discussion and debate and serve as a very effective learning experience for students.

3. Methodology

Although the main objective of this project was to carry out an evaluation of our AfL strategy, to do this effectively we needed to obtain information on students’ attitudes to, and perceptions of, quantitative methods in general, as well as a more detailed understanding of their experiences on the module. For this reason a mixed-methods approach was employed, incorporating:

- a self-completion questionnaire distributed to second- and third-year students who had taken the quantitative research methods module;
- focus group interviews with a sample of second- and third-year students who had taken the module.

The self-completion questionnaire was based on Williams’ (2007) ‘Student perceptions and experiences of quantitative methods’ questionnaire and was adapted to obtain additional information such as feedback on the Assessment for Learning strategies employed on the module. They were distributed to students in March 2013 and to maximise the response rate questionnaires were handed out to students at the end of one of their lectures. A total
of 89 questionnaires were returned, a response rate of 82% for second-year students (53 returned) and 43% for third-year students (36 returned). The questionnaire focused on a number of broad themes, including students’ previous experience of maths, their attitudes to quantitative methods in general, their experiences on the module, and their views of assessment (including the AFL tasks and activities employed on the module). Three focus group interviews were held in April and May 2013 with a total of 15 students participating. The focus groups allowed us to explore the issues raised in the questionnaires in more depth and there was a particular emphasis on the AFL tasks and activities identified earlier. It is to the findings of this research that we now turn.

4. Findings

The project produced a number of interesting outcomes, some of which were anticipated and others more unexpected. Overall, the feedback from students was very encouraging and while particular challenges remain the information provided will help the course team to develop the module and embed the teaching of quantitative methods more firmly into the curriculum as a whole. As the data will be analysed in much more detail for publication in peer-reviewed journals, this report will only provide a summary of the main issues to emerge from the survey and focus groups. Before examining students’ views on the module and the assessment strategy in detail it is worth briefly considering the context, particularly in terms of the current student cohort. We have already mentioned the University of Ulster’s policy on widening access and participation and its record in attracting students from non-traditional academic backgrounds, and some of the questionnaire responses confirm this pattern in relation to sociology students.

- Over two-thirds of respondents (67%) were first-generation university students;
- the majority of students (46%) attended grammar schools, slightly fewer (42%) attended secondary schools and 8% were former pupils of integrated schools.

While this diversity has various beneficial consequences, students from historically under-represented groups face additional challenges and this is particularly true of students who represent the first generation of their family to have attended university. Not only do first-generation students tend to have lower educational aspirations and higher non-completion rates, but there is also evidence that they are less academically prepared, particularly in relation to mathematics and sciences, than their traditional counterparts (Engle and Tinto 2008; Ward et al. 2012).

4.1 Potential barriers to success

The ways in which students respond to quantitative methods training, and their ability to successfully complete the course, is often influenced by their perceptions of their numerical and computing abilities. While these perceptions are often inaccurate, and are certainly amenable to change, they act as a serious barrier to learning on the quantitative methods module. Given that a pass in GCSE Mathematics is a prerequisite for entry onto both degree pathways we were aware that all students should have at least a basic understanding of mathematical concepts, but were surprised to find that almost one fifth (18%) also had an A-level qualification in Mathematics. Nevertheless a substantial proportion of students lacked confidence in their mathematical and statistical abilities and this appears to have generated a considerable degree of anxiety in relation to the module.
• Less than half of respondents (49%) felt they were ‘good at maths’.
• Over a quarter of students (28%) said they ‘had a bad experience of maths at school’.
• More than a third of students (34%) agreed that the idea of learning statistics made them feel anxious.
• Almost half (47%) said they would rather ‘write an essay than analyse data’.

Although the level of mathematics skills required for the undergraduate methods course is relatively limited, and certainly well within the capabilities of most of our students, the gap between GCSE and university appears to have a detrimental impact on their levels of self-belief. As Payne (2012: 21) has observed, ‘the old adage “use it or lose it” was never more apposite than in numeracy and nowhere more relevant than during the two years spent studying arts “A” levels.’ This lack of confidence in mathematical and statistical skills and the potential impact on learning was fleshed out in more detail in the focus group responses:

‘Whenever I heard it was going to involve numbers I just thought I was going to fail it, even before I even went into it, it was just that word that made me go … numbers!’

‘I thought at the start of the module there was going to be a lot of numbers like, I thought, “Oh I am going to have to calculate something, to try and find statistics I am going to have to calculate a lot of things” but then it was all done by computer so … I was pleasantly surprised.’

However, it is important to recognise that student anxiety and the resultant impact on learning is not confined to their perceived lack of mathematical ability. Many students experience a lack of confidence in their computer skills and their feelings of inadequacy can be compounded when faced with new and unfamiliar programmes such as SPSS.

‘I dreaded it, I’m being honest, I really, really dreaded it … I have that big phobia about computers and everything else.’

‘I was petrified. It scared me a lot. When I heard “computers” I was really frightened.’

On the one hand, we should probably welcome the fact that most students recognised the central place of quantitative methods training within their sociology degree and were aware of the positive impact it could have on their employment prospects as this knowledge has the potential to act as a motivational factor. On the other hand, we should also be conscious of the possibility that raising the stakes in this way could exacerbate the anxiety of those who already lack confidence in their mathematical and/or computing abilities.

• Almost three-quarters of students (73%) agreed that maths ability enables them to cope better with data analysis.
• The vast majority (91%) recognised that acquiring quantitative research skills was an essential element of a sociology degree.
• Only 3% of respondents disagreed that completing the quantitative methods module would enhance their employment prospects.

Nevertheless, these anxieties and perceived weaknesses did not seem to have influenced their choice of degree and only 5% of students made the decision to study Sociology.
because it had ‘less emphasis on numbers than other subjects’. By contrast the most popular reasons for embarking on their current degree pathway were ‘interest’ (67%) and ‘enjoyment’ (55%). However, as the following quotes suggest, for some this could be attributed to a lack of knowledge of what Sociology at undergraduate level actually entails:

‘Before I came to uni I never thought that Sociology would involve quantitative research. I had no idea. Before I came to university Sociology was Karl Marx, Weber et cetera. More theoretical than practical …’

‘When I used to see tables and whatever on things I used to wonder how did they get them there, I know that sounds ridiculous, but I never knew that sociologists had to do this type of work. That’s stupid but I didn’t.’

These results highlight the level of diversity within the group, both in terms of attributes and expectations, and there is little doubt that many students embark on the degree poorly prepared for the study of quantitative research methods. While the design of the module, particularly in terms of the specific teaching and assessment strategies, aims to address these issues, some aspects of the course prove more challenging than others.

4.2 Students’ experience of the module

Students were also asked a number of more specific questions relating to their experiences on the module and these produced some interesting results, particularly in relation to their understanding of the various topics covered on the course. While a minority of respondents (less than a quarter) rated their understanding of the lecture material or the descriptive statistics covered in the computer workshops as below average, the proportion of students reporting difficulty in understanding the inferential statistics covered in the workshops was considerably higher (42%). A similar proportion of students (41%) lacked confidence using SPSS, indicating that a substantial minority of students struggled with specific aspects of the course.

Although some students found aspects of the course challenging, there was broad satisfaction with the summative assessment strategy.

- The vast majority of students felt the assessment for the research report (96%) and the exam (91%) were pitched at the correct level
- 85% of respondents expressed satisfaction with the balance of assessment (equally divided between the research report and the exam), although almost two-fifths (39%) believed that the degree of assessment was greater than for other modules at the same level.
- Only 7% of respondents expressed a preference for a conventional essay-based exam format over the current short-answer format

As the focus of this project is on AfL we were particularly interested in students’ opinions on the various formative feedback and active learning strategies referred to previously.
4.3 Assessment for learning

4.3.1 Seminar activities

We have already described the extent to which AfL principles inform the different seminar activities and we were particularly interested in students’ views on two specific aspects of this: (a) the seminar classes on questionnaire design at the beginning of the module; and (b) one of the later seminar classes which aims to develop the ability to ‘read quantitative data’.

(a) Questionnaire design seminars

Most students recognised the benefits of collaboration and informal peer assessment with 86% agreeing that providing feedback on other students’ survey questions helped them to develop their ‘own understanding of questionnaire design’. The beneficial aspects of group work and peer feedback were also alluded to in the focus groups:

‘I loved that part of it, that is the part I really enjoyed, that discussion part like, and designing the questions.’

‘It was good to see what other people thought about your questions because … you came in and thought you were brilliant and then people were going “Why that? That’s not the way I would have done that.” I think if you said you could do this individually it would sort of scare you more, because if you do it in a group you’ve got people round you to help.’

However this kind of collaborative activity did not appeal to all students and 35% of respondents stated a preference for working on their own rather than within a group environment. The focus group responses provided an insight into some of the possible reasons for this, but they also suggest that the benefits in terms of student learning might outweigh the drawbacks:

‘Questionnaire design was difficult if other people did not turn up.’

‘Trying to get everybody’s agreement on … say, the structure of the questions … was really difficult. Some people said, “Why are you asking that? No, I don’t want that in.” And trying to keep everybody happy and everybody participating … we really thought it’s OK, it’s no problem, the easiest thing to do. How wrong were we?’

‘You have to get your hands dirty. We thought [this] would be so easy but it wasn’t.’

‘We thought our questions were brilliant, but the pilot proved they weren’t. If we had to do the questionnaire ourselves it would be really scary.’

(b) Reading quantitative data

While the main focus of this module is on helping students to develop the expertise to carry out their own quantitative research, we also want them to be able to read and interpret quantitative material published by others. To help develop these skills, time is devoted in some of the seminar classes to collaborative activities where students have to discuss and debate the findings outlined in ARK Research Updates and quantitative sociology journal articles. While the extent to which students achieve this by the end of the module varies, it is encouraging that almost three-quarters of respondents (73%) felt ‘confident’ or ‘very confident’ in their ability to ‘read journal articles which discuss the findings of quantitative research’. This confidence is reflected in the following extracts from the focus groups:
‘You are more confident to have a flick through [journal articles] instead of turning the page.’

‘There was lots of statistics in the Criminology fear of crime module. It gives us an advantage because we can now look at the statistics and are familiar with them.’

‘Especially in most journals you would see the tables and things like that there so it means you are more, well me personally, you are more confident to have a wee flick through it.’

‘I can now criticise other research papers.’

4.3.2 SPSS workshop assessments

As alluded to earlier, the computer-based workshops are designed to develop students’ competence in using SPSS, as well as their skills of data analysis and interpretation. At various points during the course they are assessed on their knowledge and understanding of the material covered in these sessions. They take the form of quizzes or mini-projects which involve students carrying out secondary analysis on some of the existing datasets they are familiar with. To maximise the formative potential of these assessment tasks the results do not contribute to the final module mark and students are encouraged to discuss the problems with each other and to work together to find solutions.

Students reacted positively to the workshop assessments and the questionnaire data suggests that they were effective in developing the skills required for the research report.

- 87% ‘agreed’ that the workshop assessments ‘enabled me to assess my ability to analyse data using SPSS’
- 91% ‘agreed’ that the workshop assessments were ‘good preparation for the research project’

‘When it came to carrying out the research project you could do it because you had had the practice beforehand. The workshops allowed you to try it out.’

‘It gave you a chance to play with it and work out what you had to do.’

The class was divided regarding our decision not to grade these exercises with 53% of respondents expressing the view that ‘marks should be awarded for the workshop assessments’. This lack of consensus was also evident in the focus group data and the following quote encapsulates the views of many students regarding assessment:

‘As a general point I think people respond better when it counts, they take it more seriously.’

However other students recognised the importance of being able to try things out without the fear of being penalised:

‘It just gave you a chance to play about with that and if marks were awarded for it and you didn’t really have a strong grasp of it, yeah I think it was good there was no marks awarded for it.’
‘But I think in this particular module … I was so panicked about it … and for me even though it wasn’t marked, I valued it because I knew I needed it.’

### 4.3.3 Interactive lectures

One of the drawbacks of the traditional lecture format is the lack of active participation on the part of students. This passivity is not only an obstacle to ‘deep learning’, but it also makes it difficult for lecturers to gauge the degree of understanding that is taking place. Even in relatively small lectures many students are reluctant to answer questions or ask for clarification on areas of misunderstanding and this is particularly problematic on modules like quantitative methods where Sociology students are likely to find the lecture material challenging. The introduction of personal response system (PRS) technology into the quantitative methods lectures was designed to address some of these problems and create a more interactive and collaborative learning environment. The feedback from students was very positive and the questionnaire results draw attention to some of the potential benefits.

- Over two-thirds of respondents (67%) ‘agreed’ that PRS ‘encouraged interaction with other students during the lecture’ (31% were ‘undecided’).
- 70% ‘agreed’ that PRS provided them with the opportunity ‘to gauge my understanding of the lecture material’ (26% were ‘undecided’).
- 59% ‘enjoyed’ using PRS (35% undecided).

However, the best indication of the success of this intervention was the behaviour of the students during the lectures. There was a noticeable increase in student participation and this entailed much more than simply responding to the PRS questions. There seemed to be a greater willingness to ask for clarification on things they didn’t understand and to volunteer responses to questions posed by the lecturer. Overall there was a much greater level of engagement during the lectures and discussions that took place around the PRS questions were often very animated. One possible explanation for this is that students are much less self-conscious about speaking out in class whenever they know that others share their lack of understanding. The following extracts provide an indication of students’ thoughts on this issue:

‘It gave you the opportunity to know what to do. If you didn’t know the answer you knew you were behind and you had to push yourself a bit more.’

‘It gave you time to let the information absorb in, rather than just a two-hour lecture where you are being fed information. You can test yourself.’

‘It’s good the way it is anonymous, you know, if you get the answer wrong it’s not like you’re ashamed.’

It is worth pointing out that the use of PRS also has beneficial implications for the lecturer. The ability to ask questions and, more importantly, obtain responses from the whole class at various points during the session provides the lecturer with a rich and extremely valuable source of information. Knowing whether or not students were grasping the key concepts facilitated a more flexible style of teaching and allowed us to tailor the lecture content to prioritise those issues that were causing particular difficulties.
5 Reflection and conclusion

Our involvement in this project has produced a number of significant benefits and the knowledge we have gained will help us to develop our teaching and learning strategy for the module and enhance the provision of quantitative research methods training within the degree programme. It would not have been possible to carry out this type of evaluation without the support of the HEA and the data collected has provided us with valuable insights into the attitudes and perceptions of our students to quantitative methods training and the way it is currently delivered within the Sociology degree programme. This information, which will enable us to align our practices more closely with the UU Principles of Assessment and Feedback, is particularly timely as the Sociology degree programme is undergoing its quinquennial revalidation next year.

While much of the feedback we received from students represents an endorsement of the broad teaching and learning strategy employed on the module, significant challenges remain. A substantial minority of students have real difficulty with some of the material covered in the course, and the fears and anxieties that act as a barrier to the development of quantitative research skills haven’t been totally eradicated. Although there have been significant improvements in recent years there is still much work to be done and our goal is to ensure that all students leave the course with a more positive view of quantitative methods and the confidence to apply the skills they have acquired. However, we know from experience that even the most anxious students can overcome these fears and change their perceptions about statistics and quantitative analysis. Indeed, watching this kind of transformation take place over the course of a single module is one of the most rewarding aspects of teaching quantitative methods. It is worth pointing out that many of the students admitted that they would not have chosen this module if it was optional but, having completed the course, were extremely glad that this wasn’t the case. For these reasons, we are diametrically opposed to suggestions that scarce resources should be targeted only at the ‘best students’ and concur with MacInnes’ (2012: 18) assertion that a solid grounding in quantitative methods should be regarded as ‘a prerequisite for any good social scientist’, rather than an optional extra.

It is important to reiterate that the difficulties referred to above only apply to a minority of students and there wasn’t evidence of the widespread aversion to quantitative methods suggested in some of the literature. Indeed one of the most reassuring aspects of the study was the extent to which students recognised the benefits of the module in terms of developing their transferable skills or helping them to secure a job. Only 8% didn’t think it had helped them develop transferable skills and an even smaller proportion (3%) was of the opinion that it wouldn’t enhance their employment prospects. There was also a noticeable increase this year in the number of students carrying out quantitative research for their dissertation, whether this involved the design of their own instrument or the analysis of secondary data of some description. This trend is confirmed by the results of our questionnaire, where only one third of respondents (32%) completely ruled out using a quantitative approach in their final-year dissertation.

Another particularly valuable consequence of our involvement in the current HEA project was the initiation of discussions with colleagues in the School of Criminology at the University of Ulster around the teaching of undergraduate quantitative methods. These conversations began at the recent HEA Social Sciences conference and as quantitative
methods is relatively underdeveloped in some undergraduate Criminology programmes there is considerable potential for interesting and rewarding pedagogical collaboration here.

6 Next steps

Our participation in this project has been a catalyst for discussion and debate concerning the role of quantitative research methods within the curriculum, not only among colleagues in Sociology, but also with staff in other departments in the University. We aim to capitalise on this by using the momentum generated by the HEA project to help us develop a more coherent and comprehensive quantitative research methods training strategy across the various undergraduate degree programmes. While this is a long-term process, we have identified a number of specific goals that we wish to pursue in the immediate future.

6.1 Consolidating and developing our AfL strategy

This project has provided us with a rich source of information which we can use to improve and develop the various types of formative assessment and feedback we employ on the quantitative methods module. The examples we focused on in this report represent part of a broader repertoire of tasks and activities designed to encourage active participation and provide students on the module with an ongoing source of feedback and encouragement. While this strategy has met with considerable success, the focus now needs to shift to the remaining challenges identified in this report. These relate specifically to the feelings of anxiety and lack of confidence regarding quantitative methods that continue to act as barriers to learning for a minority of our students. We have identified peer-assisted learning as having the potential to address some of these issues and, as the extracts below illustrate, this idea met with approval from most of the students in the focus groups.

‘I think it would be a good idea if you got another student in even from the same year or something like that, somebody who was very confident and knew and was willing to help out other students, even walk round and help the lecturer out, that there would be good.’

‘Definitely it is good to hear sometimes from another student’s mouth more so than a lecturer; I think it is more reassuring, you know, if you turn round and met somebody from third year.’

This form of peer support represents an extension of the current strategy and it is our intention to introduce a pilot scheme next year giving third-year students the opportunity to act as student mentors in the quantitative methods workshops and seminars.

Given the positive feedback from students and the pedagogical benefits already discussed, the use of PRS in lectures will be continued and developed. There are various opportunities for employing this technology in interesting and innovative ways and we have already identified examples from the literature that can be adapted for use in the context of undergraduate research methods lectures (e.g. Stuart et al. 2004; Sharma et al. 2005).

6.2 Introducing a new NILT teaching dataset and strengthening the existing links with ARK

As students spend a large proportion of their time on the quantitative methods module carrying out secondary analysis on existing SPSS datasets it is important that these are up to date and sociologically interesting. Although the datasets we currently use have served us well so far, a sister HEA project led by a team from the School of Sociology at Queen’s
University Belfast has developed new teaching datasets based on the 2010 Northern Ireland Life and Times and Young Life and Times surveys. That these are to be accompanied by a range of teaching resources and student-friendly documentation raises a number of exciting teaching possibilities and they will be introduced to the module at the earliest opportunity. We also aim to strengthen our existing links with ARK (a joint collaboration between Queen’s and UU, which run the surveys) and introduce guest lecturers to make students more aware of what goes on behind the scenes of the Life and Times survey. This should help to ‘bring the data to life’ for students and provide them with a more holistic view of large-scale survey research.

6.3 Embedding quantitative methods throughout the curriculum

Although this project focused explicitly on assessment issues, particularly those associated with AFL, it is part of a broader strategy to highlight the centrality of quantitative research methods to the overall Sociology degree programme and embed the relevant research skills more firmly throughout the curriculum. We have already identified those modules which are most suitable for the embedding of quantitative methods and our aim is to work closely with each of the module coordinators to make sure that the links to the quantitative methods and dissertation modules are much more explicit. Selecting modules from each of the three undergraduate levels will ensure the progression of quantitative skills throughout the degree. Where possible we will make use of the new NILT teaching datasets as this will ensure continuity with the quantitative methods module and also increase the possibility of students carrying out secondary analysis of the NILT data for their dissertation.

References


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