Developing peer assessment in postgraduate research methods training

Hilary Burgess, Joan Smith, Phil Wood, assisted by Maria Scalise
HEA Social Sciences strategic project 2012 -13

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.

The role of assessment in teaching research methods: A literature review
Anesa Hosein (University of Surrey) and Namrata Rao (Liverpool Hope University)

Count: Developing STEM skills in qualitative research methods teaching and learning
Graham R. Gibbs (University of Huddersfield)

Creative research methods in a college-based higher education setting
Alex Kendal (Birmingham City University) and Helen Perkins (Solihull College)

Developing applied research skills through collaboration in extra-academic contexts
Andrew Kirton, Peter Campbell, Louise Hardwick (University of Liverpool)

Developing innovative support structures for students undertaking small-scale research projects in work settings
Paula Hamilton, Peter Gossman and Karen Southern (Glyndŵr University)

Developing peer assessment in postgraduate research methods training
Hilary Burgess, Joan Smith and Phil Wood, assisted by Maria Scalise (University of Leicester)

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)

Innovation in the assessment of social science research methods
Luke Sloan (Cardiff University)

LSE100: An innovative, multi-disciplinary approach to assessing research methods learning
Jonathan Leape (London School of Economics)

Mapping, understanding and supporting research teaching within college-based higher education (HE) networks
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
Emma Calvert and Paula Devine (Queen’s University Belfast)
I. Overview

I.1 The theoretical/conceptual background

The lack of assessment and evaluation of teaching strategies in the teaching of research methods impedes progress in developing successful teaching pedagogy (Vandiver and Walsh 2010). While a majority of institutions now include research methods teaching in courses at both masters and doctoral level, too much of that teaching remains at the static delivery level in both face-to-face and distance learning contexts. This is not a new dilemma (see Ransford and Butler 1982) but it does remain only patchily addressed despite the current emphasis on research skills training at postgraduate level. The static approach to pedagogy means that too much emphasis is placed on covering content that is assessed through written assignments or written tasks, and too little account has been taken of how student understanding of different research methods develops. Consequently, ‘assessment for learning’ needs to be developed, alongside other appropriate teaching strategies, if we are to develop the ‘pedagogical culture’ in research methods advocated by Wagner et al. (2010), which would include exchange of ideas in a climate of systematic debate, investigation and evaluation of all aspects of teaching and learning research methods.

Therefore, this study aims to contribute to a limited body of research in respect of evaluating and assessing a particular teaching strategy in order to develop effective pedagogy, leading ultimately to a ‘pedagogical culture’, for teaching research methods.

Two underpinning principles provide the basis for the teaching pedagogy and peer assessment project. The first is the need to foster in students a sense of belonging to a research community via a meaningful engagement with peers in both face-to-face and online environments. This sense of affiliation could be achieved via the development and membership of learning communities, which are believed to help meet social and emotional needs leading to improved learning and higher achievement (Busher 2005). Furthermore, it could be argued that learning communities may be facilitated by the implementation of peer-assessment activities because this requires students to be actively involved in and engaged in learning with and from each other. In addition, according to Busher (2005), learning communities have a distinctive ‘collaborative culture’ because they provide the basis for those involved to work interdependently, based on shared values, towards a common goal, as well as to influence decisions and share experiences. Moreover, collaborative practice has the inherent potential to form trusting and respectful relationships by allowing for the ‘strengthening of social networks (inter-personal relationships)’ which can provide a fruitful platform for learners on which to base support for each other in terms of their professional and personal development (VanVactor 2012: 558).

The second principle underpinning this project is that of researcher reflexivity, using concept mapping as a tool for reflection, self-assessment and ascertaining progress. Using concept maps to facilitate learning in this way constitutes a form of assessment for learning (also ‘formative assessment’), i.e., self-assessment and self-reflection. For it is argued that formative assessment involves the use of higher-order thinking and that ‘there have been some studies that have shown that the use of higher-order goals is compatible with success, even when attainment is measured in such narrow terms as scores on external tests’ (Wiliam et al. 2004: 50). The benefits of using formative assessment as a pedagogical tool
have also been noted by Petty (2012: 30), who states ‘get formative assessment right and students will learn twice as much as they do from conventional methods of teaching’.

1.2 The context
The team of researchers who conducted this study are tutors from the School of Education at the University of Leicester. The tutors were assisted by a full-time doctoral student, also from the School of Education at the University of Leicester. The School provides doctoral programmes which allow students to gain their qualifications through full-time and part-time courses, either distance learning or campus-based. Our higher degree courses attract national and international students. This blend of professional and cultural diversity attracted by the degree courses is believed to enhance the sense of academic community, as well as the quality of teaching and learning.

1.3 The sample
A prerequisite for selecting participants was that they should be recently enrolled on a doctoral programme in the School of Education at the University of Leicester, i.e., first-year full-time students or the part-time equivalent. Seven students chose to take part. A number of methods were used to collect the data, such as website contributions, interviews, posters, mind maps, and questionnaires.

2. Aims and objectives

This project sought to develop students’ critical reading, writing and peer-reviewing skills via engagement in an online research community. This is especially important for students on distance learning programmes, who constitute an increasing proportion of our postgraduate research community, because it offers students the scope to develop their own understanding as well as to play a meaningful role in supporting the development of others.

The overarching aims guiding this project were:

- to develop enhanced pedagogical strategies for teaching research methods with a major emphasis on peer assessment;
- to evaluate methods of assessment of student learning and understanding through discussion with students and tutors;
- to evaluate the student and supervisor experience of these practices through questionnaire feedback and interviews.

This project also identified a subset of aims aligned to student understanding and learning, namely:

- to raise students’ awareness and understanding of intended learning outcomes;
- to develop peer-reviewing skills and the ability to give, receive and act upon constructive critical feedback;
- to foster the development of an online research community;
- to enable students to hone presentation skills in a variety of modes.
3. Activities

The activities used for this project are related to an interest in assessing students’ progress in and understanding of conceptualising and utilising research methods. Therefore, in order to assess students’ progress and understanding, the method of concept mapping was used to capture snapshots of changes in individual mental structures and learning at three different stages over a given period of time. By comparing snapshots across time, progress and change can be analysed. In addition, strategies for teaching that would support this mode of assessment were employed simultaneously. By developing these in tandem with reflective writing (in which the student explains their thinking at particular points, together with a reflective consideration of the activities and experiences in between which have led to changes), it was hoped that this would allow students’ emergent thinking and understanding with regard to research methods to be tracked, and highlight any misconceptions at an early stage.

The activities schedule was as follows:

- Once all ethical protocol had been met (i.e., ethical approval, informed consent) and the relevant teaching activities that promote engagement adequately prepared, participants were contacted and asked to listen to an audio recording based on ontological and epistemological assumptions. (All activities were made accessible via the University’s virtual learning environment (VLE), Blackboard.)
- Participants were then asked to create their first mind map relating to their understanding of ontological and epistemological issues in research design.
- Participants then took part in a discussion-board activity where it was expected that issues related to understanding of the philosophical assumptions and the construction of the first mind map would be discussed between peers.
- Following the discussion-board activity, participants were asked to create a poster related to their doctoral projects (a work in progress) using the guidelines provided on Blackboard. This was then displayed in an online gallery and visited during a period of one week by the other participants. All participants were expected to engage in both giving and receiving constructive feedback via online discussion boxes accompanying the posters. The purpose of this was to improve each other’s work based on feedback received and to attempt to simulate/reflect, as much as possible, the scenario of visitors attending the poster exhibition, so that participants could engage better through an understanding of the relevance conveyed.
- The participants were then asked to create their second mind map.
- This was followed by an interview (part of our data collection), where students were asked to explain their second mind map, as a part of the learning process.
- A short questionnaire based on the online activities followed the interviews. This would allow for an evaluation of the effectiveness and design of the online activities.
- The participants were then expected to present their posters at a postgraduate in-house conference and to provide the wider audience with, and receive from them, face-to-face feedback. The assessment criteria included how the presenter engaged with his/her ‘audience’ as well as visual design features and quality of the research.
- To complete this project, participants were expected to submit a third completed mind map.
This was followed by a final interview (again part of our data collection), where students were asked to explain their final mind map, as part of the learning process.

The sequence of peer assessment events provided points in time at which the concept maps could be revisited and developed, following the giving and receiving of formative feedback between students on the basis of a number of different modes of presenting ideas and work in progress.

A series of screenshots of the VLE (University of Leicester Blackboard) activities can be found in Appendix A.

4. Results

Initially, some students expressed concern about taking part in the study in relation to the amount of time they would need to dedicate to the project in order to participate. However, this was mainly due to individual interpretation of what was expected of participants. Once participants had a better understanding of the relevance of the project and how it related to and benefitted the development of their own projects in terms of moving these forward and developing one’s learning and understanding of research methods – and understood they were being given the opportunity to produce a poster with all expenses paid suitable for use at future conferences – they became more enthusiastic about taking part.

Initial findings from analysing the first set of mind maps showed evidence of the extent to which students’ thinking had moved on from one snapshot to the next. One student interviewed shortly after the first mind maps discussed how the poster activity had been a useful process, because they were able to see how aspects of the feedback they had given to others were not in fact applied to the evaluation they had performed on their own work: ‘[…] and especially I found myself giving some feedback to one student and realised that it also applied to mine. That I had also not done it […] which was helpful for me, yeah’.

The mind map activity also highlighted how a participant’s thinking in relation to their research focus become clearer and how their understanding of reflexivity deepened. For example, the participant in question commented on how their research questions had changed from the first mind map to the second, in that they had become more specific/refined in terms of what they wanted to investigate. Also, that they had not initially perceived reflexivity as part of the analytic process, ‘so, with my second mind-map again I started with the research questions at the top […] which have changed […] and it’s iterative, and I’ve put reflexivity as part of the analysis rather than separating it, like I did in the first one, because I’m seeing that now as part of the analytic process’.

Interestingly, the data also revealed that the participant had benefitted from having been accountable, which encouraged the participant to forge a meaningful understanding of the issues to be discussed: ‘[W]hat’s been helpful is having like […] some kind of external accountability to me getting down and trying to understand the stuff […] I mean I’ve been working on these [mind maps] over the last few weeks and thinking about it a lot and redrafting and trying to understand literature and really trying to work on this’.
It was also clear from evidence gathered from the questionnaire that the VLE activities would need to be revised, for example by giving clearer instructions and making activities easier to use, as well as by providing deadlines and giving longer timeframes for completion of activities.

A recurring theme to emerge from interviews with participants relating to peer assessment/review was that of recognising different dispositions towards peer critique, insomuch as not everybody is open to or comfortable with receiving critique from their peers through such methods of assessment. This could be viewed from two very distinct and diverse angles. For example, from the perspective of a need to respect the complexity of individual and diverse preferences/dispositions, thus use very selectively based on knowing one’s learners. On the other hand, this may be viewed from the perspective of a need to cultivate a culture in which peer assessment becomes the norm, i.e., formalise the process by integrating it as a standard part of teaching so that it is gradually accepted within the given context. There also seemed to be a consensus between some of the participants that being critical of others’ work helps to build self-reflection and improved criticism of their own work and that several students interviewed preferred face-to-face feedback because ‘it does not decontextualize the work’.

A presentation at the HEA Social Science Conference was one of the main intended outcomes for this project. It proved to be an extremely useful and effective means of disseminating and raising awareness of the work being undertaken by academics from different institutions across the United Kingdom. It also provided us with the opportunity to hear innovative ideas and receive constructive feedback for possible improvements.

The project has clearly provided a potential outline on which to produce an academic paper for future publication. It is our intention to write a paper to be submitted to a journal in the next academic year.

4 Impact

The model trialled lends itself to replication in a range of disciplines and provides the basis for a pedagogical shift in research methods training. The intention is to develop a range of teaching activities for use in a variety of settings and to develop a range of online forums in which students may present, reflect on, develop and comment on work in progress. After piloting, some of these modes of presenting and assessing work might replace current written assignments on which much current assessment is based.

5 Next steps

The second phase of this project will involve the development of an online, tutor- and peer-reviewed journal to which students submit research proposals, book reviews or short articles (in place of assignments) and are given feedback by an editorial board comprising other students and tutors. Accepted articles will be available for other students to view and learn from.

This programme of pedagogical activities and assessments will then be disseminated within the College of Social Science at the University of Leicester through the College-wide
Graduate Research Strategy Group and the new Doctoral Training Centre at Leicester in Autumn 2013. We hope that at least three other departments will be willing to take part in the teaching activities and assessments. Dissemination through groups such as the Doctor of Education networks will provide a broader base extension of the online community to other institutions and involve academics and postgraduate researchers from a wider network.

References


Appendix: Screenshots of the VLE (University of Leicester Blackboard) activities
Doing this by:

- Developing a range of teaching activities for use in a variety of settings
- Developing a range of on-line fora in which students can present, reflect on, develop and comment on work in progress. After piloting, some of these modes of presenting and assessing work might replace current written assignments on which much current assessment is based.

Project outline

We would like you to develop a poster to present at the doctoral studies summer school. By spending time engaging in developing your thinking and expertise relating to research methodology, you'll build the foundations for creating the poster. The calendar below outlines the various activities and the timeline involved. We would like you to begin by creating a mind or concept map (support given below) before entering into a discussion about your research methods ideas with another student using the dedicated discussion board.

This will then lead to you creating a poster online, a draft of which will be posted on Blackboard for peer feedback before finally being developed and printed out for inclusion at the doctoral studies summer school.

We hope that these activities will naturally fit in to your emerging work focusing on research methods, and therefore that you will not need to spend a large amount of extra time developing the work here.

Outcomes/benefits for the participants

We hope you gain a great deal from the project, particularly in finding a positive environment in which to discuss and develop your ideas for carrying out your research. Along the way, we hope you will also develop some useful skills, such as the use of Web2.0 applications and confidence in developing high quality posters about your research.

Student Pairings

Activity Foci

The two resources which you will complete are the mind/concept maps and the poster. You should focus your work on the following in each case.

Mind/concept maps - these should focus on your own research. For each completed map, complete the same exercise, summarising

- your basic assumptions about your research,
- your reasons for doing your research.
• your aims/research questions for your project,
• your methodology, relating it to epistemology,
• your outline impression of methods

Poster - your poster should be developed to include information focusing on
• outlining and explaining/discussing your project background,
• list and discuss your (draft) research questions
• the epistemological basis for your research,
• the methodology and methods you intend to use in your research,
• an outline of the theoretical background of your research (i.e. the topic for your research, e.g. curriculum development, meeting the needs of disadvantaged pupils),
• a selected reference list

Project Timeline

<table>
<thead>
<tr>
<th>Week starting</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday 18th March</td>
<td>Create first MIND/CONCEPT MAP</td>
</tr>
<tr>
<td>Monday 25th March</td>
<td>Beginning of online discussion board on methodological approaches to research</td>
</tr>
<tr>
<td>Monday 8th April</td>
<td>Start to work on DRAFT poster</td>
</tr>
<tr>
<td>Monday 20th April</td>
<td>Online gallery week</td>
</tr>
<tr>
<td>Monday 6th May</td>
<td>Continue to work on final online posters</td>
</tr>
<tr>
<td>Monday 6th May</td>
<td>Create second MIND/CONCEPT MAP</td>
</tr>
<tr>
<td>Monday 6th May</td>
<td>Select final online versions</td>
</tr>
</tbody>
</table>
Project development and diary

http://doctoralassessment.blogspot.co.uk/

Mind mapping

A central element of this project is to capture your emerging understanding and thinking about your research methodology. To help you do this, we would like you to complete three mind or concept maps over the course of the project (the timings of these are given above in the project calendar). To allow you to complete this part of the project, you can make use of an online mind mapping application (Bubbl.us) or a downloadable concept mapping application (CMapTools). Follow the links below to find out more and decide which tool you would like to use.

Introduction to applications

Using CMapTools

Once you have chosen a tool, you should be ready to start
Research Methods peer assessment project discussion board

This is the link to the project discussion board

Introduction to designing a poster

[YouTube video: Making an academic research poster using PowerPoint](http://www.youtube.com/watch?v=MagjeqXogIA)
Please read - For poster task guidance, i.e., size of the poster, text/word guidance, as well as more links to help you design your posters visit Poster task guidance docx.

For more information on planning and designing your poster visit: http://www2.le.ac.uk/departments/gradschool/resources/presenting/posters

University of Leicester poster templates available here: http://www2.le.ac.uk/departments/gradschool/resources/presenting/posters/templates

An additional online video tutorial on poster designing: https://connect.le.ac.uk/posters

For a selection of posters designed by PhD students in the Social Sciences visit: http://www2.warwick.ac.uk/knowledge/themes/07/poster/

**Poster Gallery Wiki**

For information on accessing and using the Poster Gallery Wiki, please click on Poster Gallery Wiki link.

**instructions for the conference**
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