

The University of Edinburgh

The Moray House School of Education

School Postgraduate Studies Committee

9 February 2016

Review of Research Methods Courses

Brief description of the paper

Report by Professor J Robertson on the Graduate School's suite of three research methods courses. It contains a number of recommendations and suggestions as well as highlighting the strengths of the courses.

Action requested

For discussion

Resource implications

Does the paper have resource implications? No

Risk assessment

Does the paper include a risk analysis? No

Equality and diversity

Have due considerations been given to the equality impact of this paper?
Yes

Freedom of information

Can this paper be included in open business? Yes

Any other relevant information

None

Originator of the paper

Professor J Robertson

Review of Research Methods Courses

Judy Robertson 09/02/2016

Overview

Moray House School of Education offers a suite of three research methods courses to Masters level students across a wide range of degree programmes. These are: *The Sources of Knowledge: Understanding and Analysing Research*; *Conceptualising Research*; and *Planning Research*. The intention of these courses is to give students a grounding in social science research methodologies with their theoretical underpinnings; to develop their capacity for critical analysis of research and to introduce them to a range of research techniques which they could put into practice in their dissertation work. The current courses are blended and flipped.

This document reviews the suitability of these courses for their intended purpose and makes a series of recommendations about how they could be improved. One consideration is whether the courses adequately equip students for dissertation work, although we should bear in mind that other purposes such as preparing students to work with employers are also important.

Challenges for the courses

Designing these courses presented the course leader with a number of challenges: they cater for a large number of students (300-500 students per year); the students come from nearly 20 different degree programmes; and a large proportion of the student population are international students (with around 30 nationalities) who initially have difficulty with the English language. In common with many Masters courses, there is a wide variation in prior knowledge – some students who must study these courses as a compulsory part of their degree may have studied similar topics at other universities, while others have never encountered research or even critical thinking at an undergraduate level. As the students are registered on a wide range of programmes (from Dance Science to Language Teaching) it is not possible for the teaching examples to be directly relevant to each domain. This can be frustrating to students who do not see the links between the materials and their interests; they do not necessarily appreciate the generality of research methods.

Preparing students for Masters dissertation projects is difficult. Some students may not appreciate or see the relevance of what they learn on a research methods course until they use it in practice during their Masters dissertation (or perhaps even during PhD study, or when in employment). Staffing such a large course presents administrative difficulties for the course leaders who must negotiate with Hols for tutor time. There has in the past been a fast turnover in tutors but there is now a set of more experienced tutors.

The core idea behind the structure of the courses is that common research methodologies are used across the social science disciplines taught in the School, and that it makes sense to pool resources across programmes. There is potential for the students from different disciplines to benefit from working with peers with different skills and specialisms. Despite the challenges described here, *my review of the evidence suggests that the three courses are fit for purpose and that the core idea of sharing teaching expertise across the school is valuable.*

Process

In reviewing the course I drew on a range of evidence: the course materials, student performance data, student opinions, staff reflections and external examiner comments. I have experience teaching research methods and critical thinking courses in three universities at UG and PG levels and my own research is extremely interdisciplinary. I have been a tutor and marker on Planning Research in 2014/15.

The course content

I reviewed the online course materials for the three courses. The courses provide a mixture of resources with which the students prepare for tutor-led workshops. In a typical week the students would read chapters from academic papers or textbooks, watch some videos of staff members, prepare some written notes in response to question prompts which they would then discuss in a tutorial with their tutor and classmates. There are online tutorial groups for students who are not able to attend face to face. Campus based students are also encouraged to use discussion boards. There is sufficient flexibility in the structure that articles and videos can be refreshed from year to year.

The videos are of high quality and are presented with written transcripts. They are split into titled sections of a few minutes each to make them more easily digestible. The slides are also made available when the speaker chose to use them. Some of the videos are in the style of an interview, or a collegiate discussion. Presenters talk about their own research projects, discuss their perspective on different methods, or explain basic concepts. Staff members from across the School and at a range of career stages have contributed videos to the courses. This is a real asset in my view, and can be built on and refreshed in the future

The written material contains fairly standard textbook chapters on routine research methods topics. There are also some recommendations for wider reading. Some academic papers written by members of staff are used as case studies for critical reading. My impression is that the tutors would probably appreciate a gradual refresh of the articles and could be involved in choosing replacements.

Sources of Knowledge and *Conceptualising Research* are both assessed with essays, while *Planning Research* requires the students to create a research poster which is typically a plan for their dissertation work. There are opportunities for formative assessment. The course leaders manage a moderation process to promote equity of marking across tutors. I took part in the *Planning Research* moderation process which included training for tutors using student work from previous years before the marking cycle commenced, as well as face to face and email discussions between markers on a subset of the submissions. This was a very useful exercise, as it enabled the markers to draw on expertise from colleagues who were more familiar with different topic areas and methodologies. The moderation approach has had positive feedback from external examiners.

I believe that *the topics covered on the courses are broadly suitable*. (For more on this, see the section on tutors' views). For the first course, my personal preference would be to expose the students to more (but shorter) articles and to include a systematic review or meta-analysis as one of the examples. I think that the ability to find and interpret research synthesis is very useful, and is an important topic for a course called *Sources of Knowledge*. I would probably have made the course

faster paced if I had designed it, but the recent PTAS study of the courses found evidence that many students are struggling to cope with learning in English, and are very new to critical thinking. Therefore the slower pace is probably suitable for a large number of the students.

Conceptualising Research is perceived to be difficult by students and staff alike because it covers some harder theoretical ground. While some colleagues argue that the courses should have a more practical focus, I think we can be proud of exposing the students to challenging ideas at Masters level. There is room on the third course for more practical techniques.

Planning Research uses an interesting model where students can select sessions at a mini-conference to study particular topics in more depth. The benefits of this approach are that the students have some choice over their studies and that they can learn from the deep expertise of the staff who lead the sessions. However, I don't feel that this input is quite enough. The sessions are not long enough for the students to practice the skills they will need, and sometimes the classes can be too large. I favour an additional mini-conference during the project to cover hands-on data analysis methods using the students' own datasets. As part of this, I would favour more emphasis of effect size reporting when quantitative methods are used, and less emphasis on Null Hypothesis Significance Testing.

Review of student performance

Table 1 shows the student performance in the courses for the past academic year (as available in August 2015). The averages are at high C, which the university classifies as a "good performance", suitable for a Masters degree. There is low variance, and a positive skew in the distribution (towards higher marks). There is a very low proportion of fails (Es and Fs), and also a fairly low proportion of A grades.

Course	Mean(SD)	A	B	C	D	E	F
Sources of Knowledge	58 (8)	8.8%	31.8%	43.8%	12.8%	2.1%	0.5%
Conceptualising Research	60 (8)	11.5%	39.9%	41.8%	6.1%	0.64%	0
Planning Research	57 (8)	7.1%	35.5%	45.3%	9.3%	2.5%	0.3%

Table 1. Student performance 2014/2015

In comparison to previous years, the grade distribution has remained similar, with a slight increase towards better grades. As shown in Figures 1, 2, and 3, the marks for the three courses across degree programmes (for which data was available) have a similar range. The dissertation marks across the seven degree programmes for which data was available (AY 2013/14) are also comparable (See Figure 4). Because a tutor raised the question of whether the courses prepared the students for their dissertations, I ran a linear regression on dissertation mark with the three research methods courses as predictors¹. The results are presented graphically in Figure 5. Taken together, the three courses account for around 14% of the variance in the dissertation marks ($F(3,277) = 16.32$; Adjusted R-squared= 0.14; $p < .0001$), with the most difficult course (conceptualising research) accounting for most variance. Of course, there are many other factors which affect performance in the dissertation which we do not have routine data on (experience, English language proficiency, supervisor,

¹ Multilevel modelling was not necessary due to low variance between degree programmes

motivation) but it is reassuring that the research methods courses are all statistically significant predictors of dissertation performance².

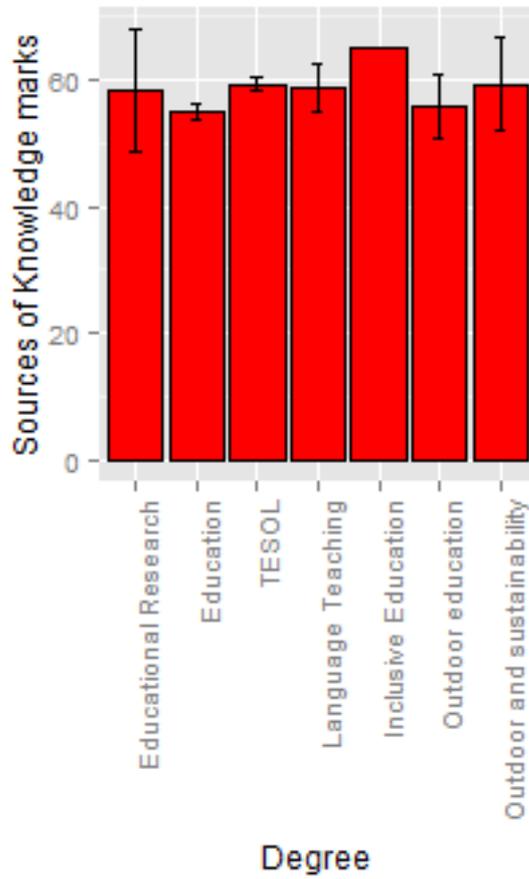


Figure 1. Marks for Sources of Knowledge AY 2013/2014

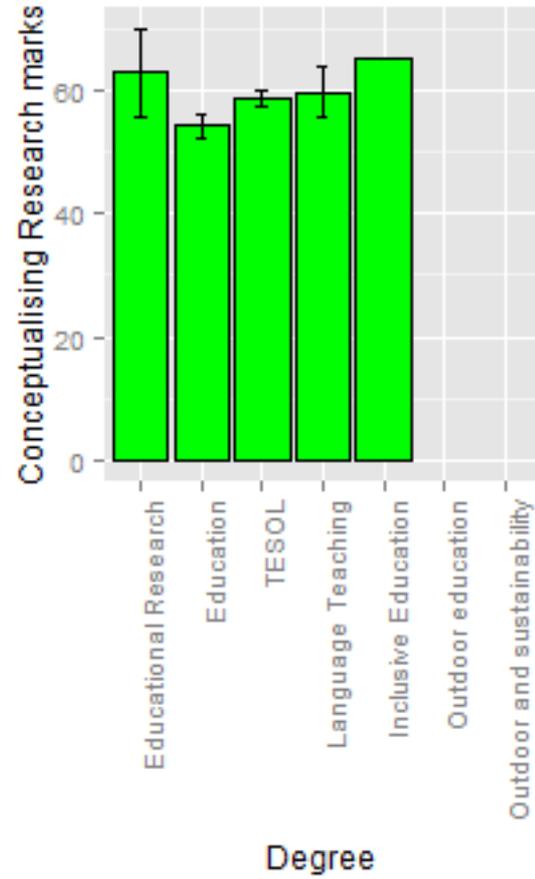


Figure 2. Marks for Conceptualising Research AY 2013/2014

² Sources of knowledge: $b = 0.18$, 95% CI [0.07, 0.33], $t = 3.05$, $p < 0.01$
 Conceptualising research: $b = 0.24$, 95% CI [0.14, 0.36], $t = 4.53$, $p < 0.001$
 Planning Research: $b = 0.11$, 95% CI [-0.002, 0.24], $t = 1.93$, $p < 0.05$

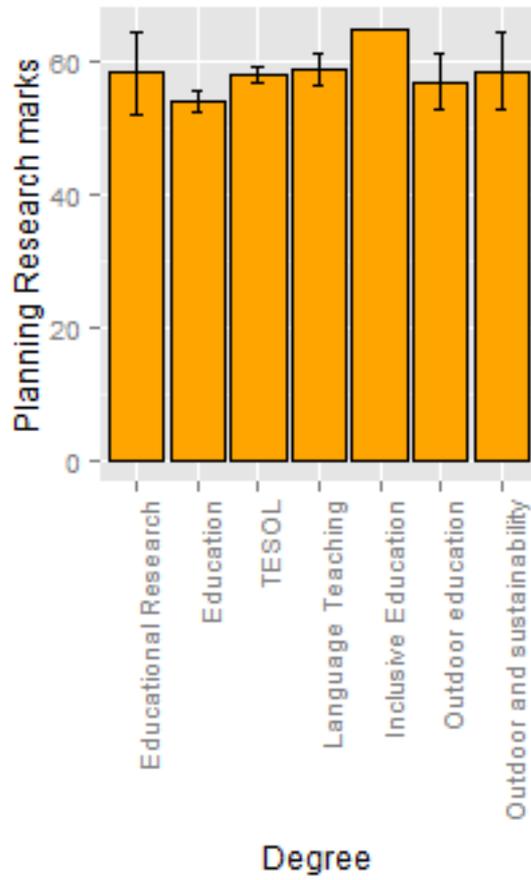


Figure 3. Marks for Planning Research AY 2013/2014

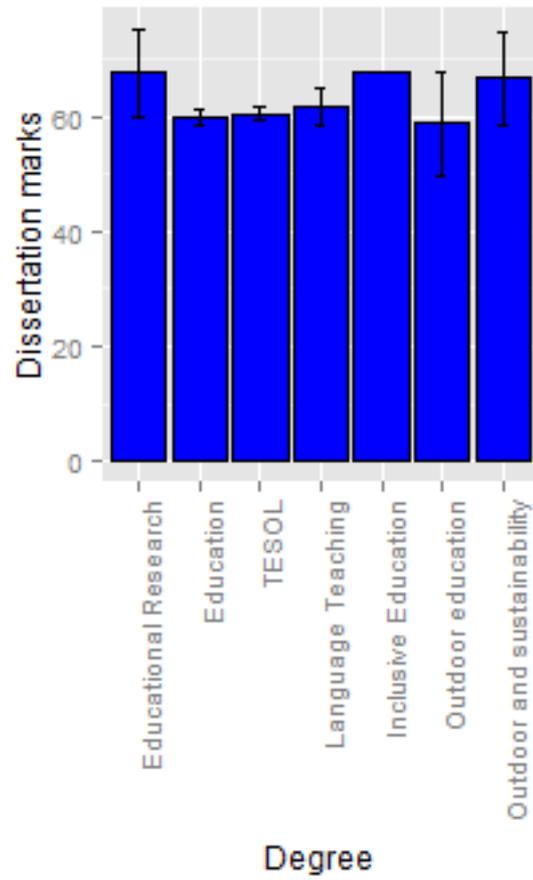


Figure 4. Dissertation marks across degree programs

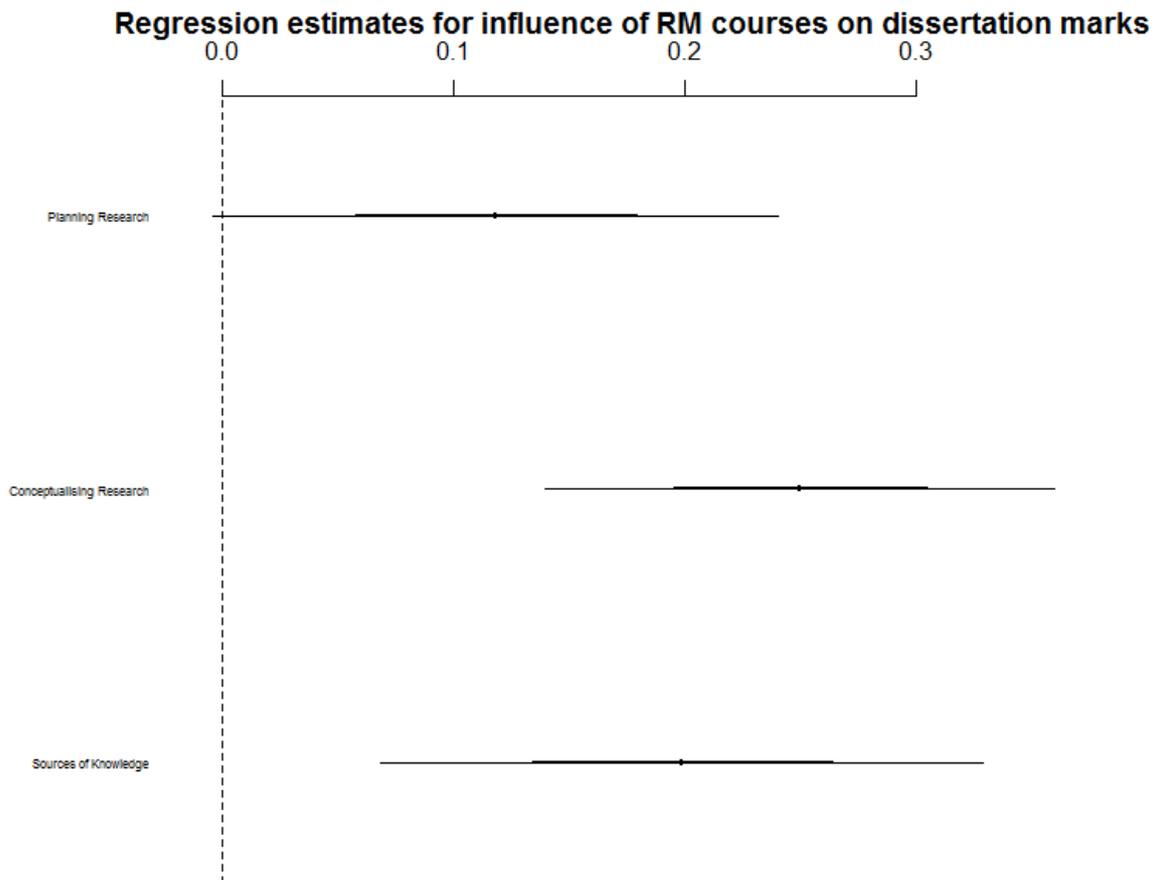


Figure 5. Regression estimates for influence of RM courses on dissertation marks.

In my view, *this is a healthy and stable set of grades which does not give cause for concern*. The course team could reflect on how to achieve a higher proportion of As, but they can equally well congratulate themselves for the low failure rate. As with all courses, I would encourage the use of the full range of the marking scheme.

Course leader consultation

The course reviews forms and my discussions with the course leaders show that *the course team regularly reflect on improvements for the courses and are responsive to student feedback. They are highly committed to supporting student learning*. They work well as a team. In the last academic year they have improved moderation procedures, changed assessment methods to enable faster feedback and updated materials in response to student needs. This year they have plans to make the assessment instructions clearer and to streamline the learning outcomes across the three courses. They have a considerable administrative challenge in managing the tutors from year to year and ensuring that rigorous moderation occurs. They have respect for the skills and experiences of the tutors.

Tutor consultation

A side effect of courses which serve such a large cohort is that the tutors teaching on a course are unlikely to have designed it. As one would expect with any academics, the tutors I spoke to expressed their own views about how research methods should be taught and were forthright in suggesting improvements. I spoke in person to three tutors and got email responses from a further two. This is a small self-selected sample, suggesting that the views represented here may be more extreme than the other tutors who did not respond.

Two of the tutors indicated that they did not greatly enjoy teaching on *Sources of Knowledge*, one indicating that the students did not enjoy it either. One of these tutors would appreciate more help from more experienced tutors in working with the cohort of international students who were not inclined to participate in class. In fact, he had already explored an electronic voting system solution to this where students could anonymously type answers to discussion prompts on their phones. This would be valuable to share with other tutors. The other tutor, who has much experience of running research methods courses, was concerned that the three courses do not adequately prepare students for their dissertations (see Figure 5 for a quantitative investigation however). This is a particular problem on programmes where there are high numbers of dissertation students per staff member, as the staff do not have as much time as they would like to individually coach students on analytical skills. This tutor would favour making the pace of *Sources of Knowledge* faster, including some hands-on analysis examples and providing an alternative study option for students who already have a social science background. She believed the students in the latter group were bored. I think that making *Sources of Knowledge* faster might be problematic for many of the students given the PTAS report which indicated that some international students find this course very challenging initially. Including hands-on analysis examples could be included in the further Planning Research mini-conference which I propose, and I also recommend reviewing the pre-requisites, prior knowledge and combinations of courses which students can take.

A tutor reported on a recent discussion among the MSc Inclusive and Special Education and MEd Additional Support for Learning teams: "...in general this programme team were not very happy with *Planning Research*. They were quite keen on a non-assessed hypothetical submission as a practice run for the real one to the supervisor, with all 60 credits making up the dissertation." This is partly because of the potential for conflicting feedback given by the Planning Research marker and the eventual supervisor of the project. This is a difficult but not uncommon issue for research methods courses where the same staff do not assess the research proposal and supervise the project. The student may find it hard to make sense of contradictions between staff members, but part of the purpose of the courses is to give the students Masters level skills to use critical thinking to resolve research problems, including examining view points from different experts, perhaps from different disciplines. It is of course frustrating for supervisors who take responsibility for the student for the duration of their projects if they feel their judgement is undermined. One would hope that they could defend their research judgement, however – this point underlines the necessity of having research active staff as tutors on these courses *and* as supervisors of projects. For this particular case I suggest that the programme director and the course leader discuss the details of the situation to see if there are any lessons to be learned for the future.

I would have preferred to talk to more tutors to get a broader range of views but many were on holiday during the summer period when I prepared the report. For the future I recommend *that the*

course leaders should incorporate regular means for consulting tutors about their suggestions for content and teaching approaches into the academic cycle.

Student consultation

The views of students were investigated during a PTAS funded project led by Rory Ewins, Ken Fordyce and Pete Allison. This document considers the highlights of their findings, minutes of staff student liaison committee meetings and the student feedback section of the course leaders' reports. I attended the staff/ student liaison meeting for *Conceptualising Research*.

The feedback I reviewed indicated that *the students are broadly happy with the courses, although they have minor suggestions for tweaks.*

The findings of the PTAS study indicated that some of the students have difficulty grasping what is meant by "critical thinking" and do not know how to be critical in their writing. Writing critically is not part of prior learning or assessed in the written English qualifications for large numbers of the students. This issue – which is shared with many other courses across the School - should be directly addressed, and included in tutor briefing.

The PTAS project found that of the blended resources, the students typically found written materials most useful. Opinions about the videos were mixed, with some students finding them useful as examples of current research and others finding them boring. The transcripts of the videos were valued by those who found the videos themselves too slow, too long or the pace of the spoken English too fast. The option to rewind videos was also appreciated. The discussion boards were not valued by the students in their current form; the PTAS findings suggest that more tutor engagement on the discussion boards could help with this. Sometimes students did not understand the connection between the videos and the readings, or the topics from week to week. This suggests that more sign posting by tutors could be helpful. The videos are valuable to at least some of the students (particularly those who are developing their academic English) and so they should continue to be included in the course as part of a rich set of resources. Students who do not enjoy them can prioritise other learning resources.

The minutes of the staff student meetings give mixed messages about the time students spend in workshops. Students value contact time with staff in a workshop/dialogue setting rather than in lecturing mode and would prefer more of this if possible. Some students wanted longer classes to enable further discussion, some thought the class time was about right, while others said there was too much peer discussion. There was one comment that there should be additional sessions. One student who attended the *Conceptualising Research* meeting was concerned about the lack of teaching and over-use of facilitation by her tutor. She was particularly frustrated because she had the same tutor across the first two courses. This is something which could be addressed by peer pairing of tutors and an away day to discuss teaching approaches before the courses commence. Discussion of techniques to encourage more even participation from group members would also be useful at such sessions, because the issue of the "silent students" also came up during consultations.

External examiners' views

Three sets of external examiner views concerning research methods were made available to me: Dance Science and Education (2013/14), Sport Policy, Management and International Development

(2013/14) and Dr Michael Waring's report as external examiner for Sources of Knowledge and Conceptualising Research (2014/15).

The external examiner for Dance Science and Education commented that the Planning Research course seemed divorced from the dissertation itself and in her view should be integral to the dissertation and delivered by the supervisor. This is obviously a decision for the Programme Director to make – it may be possible for the small Dance Science and Education cohort (6 took Planning Research in 2014/15) but it would be less feasible for the larger cohorts.

The external examiner of Sport Policy, Management and International Development reported that the students perceive that the research methods staff have a lack of expertise in their area, and find this alienating. This comment refers to the underlying trade-off which programme directors have to make: is it worth "buying in" to the collective research methods courses, given the nature of this programme? It is perhaps a less obvious decision for programme leaders in areas which are farther from mainstream education such as Sports Policy. There are relatively few students on this programme (e.g. 26 took Planning Research this academic year) so it would not be appropriate to make a major shift in focus towards these areas. However, some flexibility about some of the reading topics for different student groups could help, as well as the active involvement of staff from each of the degree programmes in planning and teaching the courses each year to make sure the needs of their programme are met.

The external examiner for Sources of Knowledge and Conceptualising Research commented that the moderation scheme was robust and that he felt the courses have "massive potential". This is very positive.

What we do well

- The courses are a nice example of flipped blended learning with a mixture of interactive face to face discussions, preparatory reading and online video content. It is appropriate that Moray House should be using such a contemporary, well designed structure – we should consider moving more of our courses to this format. Such a move would be consistent with the Moray House Technology Enhanced Education strategy.
- The courses are deliberately structured to take advantage of the wide research expertise in the School (e.g. staff can teach specialist methodology topics at the Planning Research conference, present their work on a video or contribute a paper as a tutorial reading). The course encourages staff members from all the institutes to work together.
- The structure of the course is sufficiently flexible to allow for a rolling refresh of material (e.g. new video content, or swapping in different articles).
- The Planning Research conference day, is innovative and very useful for preparing students for dissertation work. More input of this sort would be beneficial.
- The course leaders regularly reflect on the course and adjust them in response to student feedback.
- Care is taken to ensure that the marking is moderated to maintain consistency between staff's grades. The staff should continue to experiment with rigorous moderation methods, and there should be a consistent policy across all three courses.
- The grade distribution is appropriate and stable across years. There is a very low failure rate.

Recommendations

Staff

- Introduce a peer pairing system which matches up more experienced staff with newer staff. This could include a reciprocal peer observation of classes, with time at the end for discussion and reflection. This builds on the sharing of experience which has been effective for moderating student work.
- Organise an away day event at the beginning of the year (or at the start of semester if this is required logistically) where all staff meet the course leaders and discuss teaching approaches for the courses. This would enable teachers to reflect together on the difficulties which students have faced in the past and strategies which might help. For example, PTAS project findings about the need to explicitly teach what is expected for critical thinking would be a useful discussion topic.
- Tutors should be consulted about their suggestions for content refreshes, perhaps bringing up ideas for next year at the end of each course when it is fresh in their minds. Tutors from each of the degree programmes which use the courses should be involved in this.
- Encourage Heads of Institutes to involve senior research staff members (e.g. professors) in research methods teaching, either as regular tutors or to give single sessions at conference events. This would give students an opportunity to learn from experts in the area and also cement Moray House's commitment to research-led teaching and a high quality REF environment.

Preparing students for the dissertation

- Introduce a non-assessed "just in time" mini-conference or research clinic during the dissertation period where the students can bring specific problems from their own work and get advice from staff. A similar event worked very well on the TESOL programme in May as the students had started to make connections between what they previously learned and their own data and needed further input.

Greater flexibility for students' related learning

- Introduce some sessions where the reading topics vary according to the degree of study. This could have staffing/timetabling consequences which would make it hard to achieve in practice. However, it is worth exploring to address students' desire to learn about research in the context of their own discipline.
- Consider whether students who have already studied research methods in social sciences courses (whether here or at another institution) could be exempt from the first course, and have the option to take a more advanced course from the Doctoral Training Centre instead. This would be particularly appropriate for those who wish to use advanced quantitative methods.
- Review the possible combinations of courses which students can take. For example, there is overlap between *Nature of Inquiry* and *Conceptualising Research*, as well as *Planning Research* and *Designing Education Research*. Programme Directors should consider whether students should be allowed to take both courses in an overlapping pair.

Suggestions

In addition to the larger recommendations above, the following are more minor suggestions for tweaks and content changes.

- Replace the Shon text in *The Sources of Knowledge: Understanding and Analysing Research* with a shorter text
- Try to avoid matching a student with the same tutor on more than course to forestall problems arising from inconsistent standard of teaching.
- Check that the Planning Research conference day does not conflict with other classes so that students and tutors can attend
- Specify to tutors that they should interact on discussion boards, as this is something students requested in the PTAS project. Tutors would benefit from guidance on this at away day.
- Make a resource bank of sample assignments (anonymised) from previous years at different grades, annotated with tutor feedback. This would help student understand what is expected.
- Look at options for challenging students in the top 20% - e.g. invite them to seminar series and events organised by clusters.
- Review learning objectives, to make them more concise, reduce overlap and to include “deductive/inductive” reasoning.