

**The British
Psychological Society**
Promoting excellence in psychology

Supplementary guidance for research and research methods on Society accredited postgraduate programmes

April 2017



**The British
Psychological Society**
Partnership & Accreditation

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Introduction

In 2012 the Partnership and Accreditation Committee commenced a review of its standards for the accreditation of postgraduate programmes, in collaboration with its postgraduate Training Committees, Divisions, providers of accredited programmes and other relevant stakeholders. A primary aim of the review was to achieve a balance between the need to specify core content, and a wish to produce standards that avoid prescription and encourage a flexible approach to delivering postgraduate training, enabling providers to deliver programmes that more readily reflect their strengths and research expertise. The review also sought to more clearly articulate a common core of requirements across the range of applied psychology practice, and those standards relating to research and research methods have been a particular focus for this.

This document was developed jointly on behalf of the Society's Research Board and the Partnership and Accreditation Committee. It is designed to offer programme providers **supplementary guidance** that will assist them in developing their research methods provision, and the research knowledge and skills that are integral to the provision as a whole. It sets out the Society's minimum expectations of accredited postgraduate programmes at both Masters and Doctoral level, and **identifies those factors that programmes need to consider** in order to be able to demonstrate achievement of those standards. The document also includes a number of **examples** of the different ways in which programmes might use these supplementary guidelines to inform module or programme design. Whilst this guidance is primarily designed to support accredited postgraduate programmes, other, non-accredited and post-qualification programmes are also encouraged to adopt the principles and suggestions outlined as best practice.

The guidance contained in this document seeks to articulate the ways in which postgraduate education and training in psychology might build upon material covered at undergraduate level. **It is not intended to be exhaustive or prescriptive**, and it is likely that individual students will have different experiences of undertaking research and engaging with research methods depending on factors including: the particular expertise and research priorities of the department or institution in which they are based; the domain of applied psychology they are studying; and their own personal research interests of relevance to that domain.

Core standards

a. Masters programmes

The Society accredits Masters programmes in health psychology, forensic psychology, occupational psychology and sport and exercise psychology, and in educational psychology in Scotland. Such programmes are accredited as stage one of a two-stage postgraduate training route. The purpose of Stage 1 training is to **build upon** undergraduate knowledge and skills, to provide an **in depth** knowledge and understanding of the discipline informed by **current scholarship and research**, including a critical awareness of current issues and developments in the discipline. The core standards around research and research methods for Stage 1 Masters programmes are as follows, and should be read in conjunction with the additional standards that are set out for each Division in the relevant *Accreditation Handbook*¹:

Students should demonstrate the ability to use a range of techniques and research methods applicable to advanced scholarship in the discipline. Students should learn how to conduct qualitative and quantitative research of relevance to their specific discipline, and each student should conduct at least one empirical study². Students should have the appropriate skills and capabilities to collect and analyse relevant data.

In order for students to be able to progress on to Stage 2 training, and for them to be active consumers of research, the project should involve collecting original empirical data from participants, or equivalent alternatives such as computational modelling of empirical data or secondary data analysis, making use of existing large quantitative or qualitative data sets. Systematic reviews are not included within the permissible equivalent alternatives.

In addition, accredited Masters programmes are expected to support their students' development of **a range of core and transferrable skills** to enhance their employability. The standards for the accreditation of Stage 1 programmes are **outcomes based**, and encourage the development of critical thinking skills and ways of working such that students engage with the discipline by:

- Critically evaluating the current knowledge, theory and evidence base relevant to the discipline (note: this may comprise both psychological theory and knowledge from other disciplines), and understand that this is an important first step for all work and activities;
- Identifying and developing skills and capabilities relevant to progression to practice in their chosen field;
- Using a range of techniques and research methods applicable to psychological enquiry;
- Applying relevant ethical, legal and professional practice frameworks (e.g. BPS, HCPC), and maintaining appropriate professional boundaries;
- Communicating effectively (verbally and non-verbally) with relevant audiences in an appropriate way;
- Critically reflecting on and synthesising all of the above to inform their developing professional identity as a trainee psychologist; and

¹ Accreditation Handbooks may be downloaded from www.bps.org.uk/accreditationdownloads.

² Students on health psychology programmes also need to complete a mini systematic review. This should not be a full-scale publishable systematic review, but a piece of work that moves students beyond working with single papers and allows them to demonstrate their ability to synthesise the quality of the evidence base in a chosen area.

- Disseminating their work appropriately in a range of appropriate written (e.g. professional reports, journal papers, conference posters) and oral (e.g. presentations, one-to-one feedback) formats.

b. Doctoral programmes

The Society currently accredits Professional Doctorate programmes and other Doctoral qualifications in clinical psychology, counselling psychology, educational psychology, health psychology, forensic psychology, and occupational psychology. Such programmes are accredited either as integrated programmes that reflect in full the requirements for Chartered membership of the Society, or as stage two of a two-stage postgraduate training route, and also broadly reflect the core skills identified for Masters programmes, above. Whereas accredited Masters programmes are primarily intended to build upon knowledge and skills gained at undergraduate level and provide a foundation for progression to professional practice, trainees on Doctoral programmes have an important role to play in extending the forefront of the discipline by contributing to the creation and development of the evidence base.

The **core standards** around research and research methods for Doctoral programmes are as follows, and should be read in conjunction with the additional standards that are set out for each Division in the relevant *Accreditation Handbook*²:

Trainees should demonstrate the ability to conceptualise, design and conduct independent, original research of a quality to satisfy peer review, extend the forefront of the discipline, and merit publication. This should include the ability to: identify appropriate research questions; understand and reflect on ethical issues; choose appropriate research methods and approaches to analysis; report outcomes; and identify appropriate pathways for dissemination.

It should be noted that research that is undertaken as part of a larger programme of research (e.g. one stage of a multi-stage trial) will be deemed to meet this standard provided that it is clear that the trainee is making an individual contribution to the project in question. For example, such research might be submitted for publication as a multi-authored paper to which the trainee in question has had a clear input.

³ Accreditation Handbooks may be downloaded from www.bps.org.uk/accreditationdownloads.

Key considerations in programme or module design

One of the key aims of the recent standards review was to ensure that our standards for accreditation promote flexibility in programme design. To that end, programmes are free to design their research and research methods provision in any way they wish, provided that they are able to **a)** provide evidence that the standards in the relevant *Accreditation Handbook* have been met, and **b)** provide a rationale for why they have reflected the considerations outlined below in their programme design in a particular way. Programmes are free to highlight ways in which they go beyond these guidelines, should they so wish, and innovative approaches to engaging students and trainees with the considerations identified in this document are encouraged.

Programmes should note that whilst the dissertation or thesis will provide the main opportunity for students and trainees to demonstrate their ability to undertake research at the appropriate level, each of the considerations outlined below may also be addressed in other areas of the programme; for example, this could be achieved through dedicated research methods module(s) or by integrating relevant content across other modules, including those not dedicated to research methods. Programmes' assessment strategies will need to reflect the relevant core standards for accreditation; **programmes do not need to assess each aspect of the elements detailed below.**

This section outlines the different factors that programmes should consider in the context of each of the headings below, which are intended to reflect the overall research journey that individual students and trainees will take. **Examples** are provided, but **programmes are not expected to cover each example given.** Additionally, the level of attention that programmes give to each of the headings below will vary.

Methodology and philosophy

By the end of their programme, students and trainees will need to be able to undertake advanced scholarship in the discipline at the appropriate level. A critical understanding of the epistemological foundations of the core research methods used in their discipline is central to this. **Programmes will vary in how they approach these questions**, but they should consider the level of familiarity that their students and trainees need to have with the debates around, **for example**: realism and relativism; phenomenological and social constructionist approaches; or frequentist and Bayesian statistics. Some programmes will be satisfied that their students or trainees are aware of the existence of such debates, whereas others may offer a more in depth consideration.

Research ethics

Students and trainees need to understand the ethical considerations that apply to psychological research. They should be able to demonstrate adherence to the general principles outlined in the Society's *Code of Human Research Ethics*, which are applicable to all research contexts and are intended to cover all research with human participants. The Society produces a range of research guidelines and policy documents that will be relevant to individuals undertaking other particular types of research (**for example**, internet-mediated research, and research with animals), and students should be cognisant of these as appropriate⁴. Additionally, students and trainees should

⁴ The research guidelines and policy documents produced by the Society can be downloaded from the Society's website at: www.bps.org.uk/publications/policy-and-guidelines/research-guidelines-policy-documents/research-guidelines-poli

consider issues of diversity and equality of relevance to the research in which they are engaged (**for example**, access to research, the nature of the research focus, diversity of participants in research, or the involvement of service users and carers in research).

Research design

Students and trainees should be equipped with a critical understanding of a variety of research designs, and should be aware of the different perspectives on these. They will need to be able to select and use the most appropriate design to enable them to answer their research question, and may also benefit from an appreciation of the philosophical underpinnings, challenges and opportunities associated with pluralist or mixed methods designs.

Data collection

Students and trainees need knowledge and understanding of a range of data collection techniques and methods that they can utilise in university, placement or other research settings as appropriate. They need to have some experience of⁵: individual or group research (**e.g.** 1-to-1 semi-structured interviews; focus groups; interviews conducted on a face-to-face basis, over the telephone or online; observational approaches); experimental methods (**e.g.** laboratory experiments, field experiments, or quasi experiments); and survey approaches (**e.g.** questionnaire, validated instrument). They should have an appreciation of online data collection methods⁶, and of approaches to the use of secondary data. They should also be aware of a range of different methods for both collecting and recording data, and whilst they will be aware of a range of approaches, the in-depth experience they gain **will depend on the programme and the research they undertake individually**.

Data preparation

Students and trainees will need an awareness of approaches to transcription of qualitative data, and to understand that the method of transcription is contingent upon the specific method of analysis specified in the research design. They will also need to be able to undertake data screening, data cleaning and exploratory data analysis, and should be aware of the pros and cons of common methods for dealing with missing data (**e.g.** casewise deletion, listwise deletion, mean substitution, or multiple imputation).

Analysis

Students and trainees will need to know how to conduct qualitative and quantitative research. This requires an awareness of different aspects of statistical analysis, including different approaches to statistical inference (**e.g.** significance tests and confidence intervals), and an appreciation of the assumptions upon which such measures are based. Students and trainees will also require knowledge of power calculations, effect size, and of regression methods (**e.g.** ANOVA, ANCOVA and multiple linear regression). They will need to understand issues relating to scale construction (**e.g.** reliability, factor analysis). Again, whilst they will be aware of a range of approaches to analysis, the in-depth experience they gain **will depend on the programme and the research they undertake individually**.

Students and trainees will need an appreciation of the basic principles of different approaches to qualitative analysis (**e.g.** thematic analysis, discourse analysis, conversation analysis, IPA, Grounded Theory, narrative analysis, content analysis). They should also appreciate the

⁵ Experience may be gained informally (e.g. through practice in-class with peers) and does not need to be assessed.

⁶ Programmes may find it useful to refer to the Society's *Ethics Guidelines for Internet-Mediated Research*.

limitations and strengths offered by different approaches, and the additional considerations involved in producing qualitative research that is of high quality (e.g. reflexivity and appropriate quality criteria).

Students and trainees should be aware of, and (where available) be able to use software packages to support the analysis of different types of data.

Advanced

The factors outlined above reflect the breadth of knowledge and understanding that students and trainees will need to develop in relation to research methods. This reflects an expectation that students and trainees will have an awareness and basic understanding of a range of approaches to undertaking research that extends beyond the knowledge gained at undergraduate level. However, the specific in-depth experience they gain **will depend on the programme** and the **research they undertake individually**, and should normally cover at least one specialist technique or approach to an **advanced level**.

The particular technique(s) adopted will reflect the strengths and expertise of the Department, and / or those approaches that are most relevant to the branch of psychology in question and the context in which the research occurs (e.g. practice settings). It is also expected that individual students and trainees will have different opportunities to develop an advanced knowledge of particular approaches, and that within a single student cohort a diversity of experiences will exist.

The list below offers examples of approaches that students or programmes may choose to cover at an advanced level, but it is not intended to be exhaustive or prescriptive. Programmes are free to emphasise techniques or approaches that do not appear on the list below, provided they have a rationale for doing so:

- Evidence synthesis (e.g. narrative review, meta-analysis, meta-synthesis, systematic review)
- Structural equation modelling or latent variable modelling
- Generalised linear models
- Mediation and moderation analyses
- Multilevel modelling
- Bayesian methods
- Small n research techniques
- Simulation methods (e.g., bootstrap or permutation methods)
- Multi-dimensional scaling
- Phenomenological methods such as IPA, descriptive phenomenology
- Discursive methods such as critical/Foucauldian discourse analysis, discourse analysis
- Language-focused methods such as conversation analysis
- Narrative analysis
- Ethnographic approaches such as observation, field work
- Grounded Theory
- Framework analysis
- Template analysis
- Mixed methods (e.g. Q-Methodology, repertory grids, or the epistemology of mixed methods and different research designs)

- Visual methods (e.g. photo elicitation research, visual analytic techniques)
- Evidence-based practice (e.g. Randomised Control Trials, systematic reviews, service evaluation)
- Approaches to involving service users in research (e.g. experienced-based design, participatory research)

Dissemination

Programmes are encouraged to consider the different ways in which students and trainees might present and further disseminate their research. Dissertations and theses will need to be presented in a way that reflects the particular institution's regulations and other quality management requirements, but alternatives to traditional approaches to presentation may include but are not limited to: writing the research up as if for publication; producing a journal article and literature review or project management report; or developing a poster presentation in addition to a more formal write-up⁷. Programmes should also encourage their students, trainees, and recent graduates to present their research at relevant conferences (**e.g.** those offered by the Society and its divisions, as well as other organisations).

⁷ This may include in-class presentations to peers and / or staff.

Good practice in managing research

- Programmes should have a clear understanding of local ethical guidelines around confidential data storage and retention; for example, questionnaire data, interview recordings, transcripts, consent forms.
- All research projects must conform to the appropriate governance procedures, and address relevant ethical guidelines, including those that are outlined in the Society's *Code of Ethics and Conduct* and *Code of Human Research Ethics*, the HCPC's *Guidance on Conduct and Ethics for Students*, and any other local guidelines that pertain.
- Students and trainees should have access to computer facilities for data analysis and have adequate training in their use, as appropriate, including guidance on data protection and confidentiality.
- Each student or trainee should have a competent research supervisor. There should be a system in place for approving the allocation of research supervisors. Supervisory loads should be monitored and be such that adequate supervision is provided to students and trainees.
- There should be a research agreement between the supervisor and the student or trainee that covers matters such as a schedule of regular supervision meetings and progress reviews, written feedback on drafts and a timetable for the project. Consideration should also be given to minimum and maximum amounts of supervision available to individual students or trainees. Whatever the arrangements in place, programmes should be able to articulate their approach and any policies that support its implementation.
- Great care must be taken to allow students or trainees to plan and organise their research project in good time, such that there is the opportunity to complete it successfully. Time must be set aside early on in the programme for discussion of the proposed project. Regular monitoring of progress and the quality of the research must be carried out throughout the programme.
- Programmes must be sensitive to the problems that may arise in carrying out applied research. Care must be taken to anticipate common difficulties and take preventative action.
- Students and trainees should be made aware of any programme-specific guidelines or requirements regarding authorship of publications. In drawing up such guidelines, programmes should take account of the Society's Statement of Policy on Authorship and Publication Credit.

Examples of different approaches to research and research methods on accredited programmes

The following are offered as examples of the different ways in which accredited programmes engage students with research and research methods as outlined in these guidelines. We would welcome the inclusion of further examples of good practice: if you wish to submit a brief outline of your provision, please contact lucy.horder@bps.org.uk.

- a)** Our approach to teaching research methods – MSc Health Psychology, Aston University
- b)** Research Methods teaching on the MSc Health Psychology (by distance learning) at the University of Ulster
- c)** A focus on research methods – MSc Forensic Psychology, Nottingham Trent University
- d)** Our approach to teaching research methods – MSc Sport and Exercise Psychology, University of Portsmouth
- e)** Research Methods teaching on the Doctoral training programmes in Clinical Psychology and Forensic Clinical Psychology at the University of Birmingham
- f)** Research Methods training for PhD students on the research degree programme in Psychology at City University London

Our approach to teaching research methods – MSc Health Psychology, Aston University

We currently have two 30 credit modules dedicated to research methods: *Qualitative Research Methodology* and *Quantitative Methodology and Advanced Statistics*. These modules cover techniques for collecting and analysing data, and principles of qualitative and quantitative research. Both are assessed with mini-projects for which students are expected to collect and analyse their own data to demonstrate those skills. The qualitative methodology module also covers reflexivity and quality appraisal. These are assessed through the critical appraisal of a published journal article using the Critical Appraisal Skills Programme checklist for qualitative research with reference to other published criteria, e.g. Lucy Yardley's (2001) criteria. There is an exam to test the students' understanding of statistics - this focuses on their understanding of the rationale for use of particular types of tests and their ability to interpret test results.

We also cover issues of project design and choosing the appropriate method to answer the research question in the *Research Project* module (60 credits). Together with sessions about research design - including mixed methods, we hold a project ideas workshop where students work in small groups, with help from the teaching team, to think through their project ideas and to identify the most useful methods for collecting and analysing data which will best answer their research question. We do this to take the focus away from the qualitative-quantitative distinction to encourage students to think through their question and identify the best-fit methods.

The two methods modules are delivered in term 1 to enable students to use the content to inform their project proposals. The sessions on design in the research project module also come in term 1 ahead of their deadline for submitting their research proposals at the end of term.

Reflections

This model maintains the somewhat artificial distinction between qualitative and quantitative methods, but because of this, we do aim to always emphasise the importance of appropriateness of methods to the research question when working with students in designing their projects. There is also limited time devoted to mixed methods designs. This is something we will continue to review going forward.

Dr Rachel Shaw CPsychol AFBPsS, January 2014

Research Methods teaching on the MSc Health Psychology (by distance learning) at the University of Ulster

The 30 credit methods and issues in research and practice module is designed to give students a grounding in the techniques of research design, data analysis, and various issues in the practise of health psychology (only the research methods aspects will be described here). The module is designed as preparation for the dissertation and further research in health psychology. At the start of the module, online revision material is provided for students to refresh their skills in using SPSS and of undergraduate statistical knowledge.

Module content

- Practical and ethical issues in health psychology research (service evaluation v's research), critical literature reviewing, systematic reviews (narrative and meta-analysis, the research question and research design).
- The role and importance of evidence based research in healthcare
- Qualitative data collection techniques (interviews, focus groups and text), data preparation (transcription) and analysis (grounded theory, IPA, discourse analysis, narrative analysis); triangulation and reflexivity.
- Quantitative data collection (study designs, methods of data collection, power analysis); scale construction, reliability and validity; data screening, cleaning and strategies for dealing with missing data; factor analysis; reliability analysis; MANOVA, hierarchical multiple regression (HMRA); reporting and dissemination of findings.
- Philosophical foundations and tensions associated with mixed methods; mixed methods designs; advantages and disadvantages of mixed methods; writing up a mixed methods study.

Assessment

The **critical appraisal** assignment introduces students to the idea of systematic reviews of literature. Students choose one paper (out of six) and appraise the quality of the paper using two separate appraisal tools; discuss which tools they think are the best and reflect on the use of the tools.

The **qualitative practical** gives each student the opportunity to collect data (from one focus group) on child play patterns and health. They discuss themes online (in groups) before individually analysing and reporting the data using thematic analysis. This work is then used by students to develop a series of questions, which are collated to produce a questionnaire.

Students discuss the themes from the qualitative practical to develop a series of questions, which are collated to produce a questionnaire that is used in the **quantitative practical**. Data from all students is 'pooled' and the factor structure and reliability of the new scale is explored.

The previous two pieces of coursework give students an insight into the links between qualitative and quantitative methods and the final piece of coursework is a **mixed methods essay** in which they critically discuss the advantages and disadvantages of using mixed methods in health psychology research

Reflections

Our students have told us that the first assignment, which is something they find quite difficult, has helped them to become more critical in their reading of research and provides a good foundation for the mini systematic review, which forms part of their dissertation module. The programme team feel that the link between data collection and analysis for the qualitative and quantitative practicals forms a logical progression for consideration of mixed methods approaches in health psychology research. This has resulted in quite a few of our students utilising mixed methods designs in their dissertations.

Dr Lynn Dunwoody CPsychol AFBPsS, January 2014

A focus on research methods – MSc Forensic Psychology, Nottingham Trent University

The MSc in Forensic Psychology at NTU has four compulsory methods modules in addition to the compulsory research project. Research methods are also covered in tutorial work.

Advanced Experimentation and Statistics 1 (10 credits) and 2 (10 credits)

These modules examine the theoretical and philosophical underpinnings of statistics used in experimental research. The module also covers application of various experimental designs and statistical techniques and computer software such as R. Term 1 focuses on regression methods such as ANOVA and multiple regression while term 2 extends the work to more advanced topics: generalized linear models such as logistic regression, ordinal logistic regression and Poisson regression and multilevel models.

Qualitative Research Design and Analysis 1 (10 credits)

This module provides a comprehensive philosophical and methodological grounding in qualitative research. Additionally it will develop the necessary skills to manage and handle qualitative data, alongside a range of data analytic techniques used by qualitative researchers in psychology (e.g., thematic analysis, grounded theory and IPA).

Mixed Methods (10 credits)

This module considers the ontological, epistemological, practical, and theoretical issues involved in combining qualitative and quantitative research in psychology. It demonstrates some of the most effective ways in which quantitative and qualitative research techniques can be employed together within a single research programme, and it will also introduce some unusual methods that combine quantitative and qualitative elements within a single procedure (for example, repertory grids and Q methodology).

Reflections

The MSc in Forensic Psychology was developed with a strong emphasis on assessment, rehabilitation and treatment and the evaluation of rehabilitation and treatment. For this reason there is a relatively strong emphasis on quantitative and mixed methods.

Professor Thom Baguley MBPsS, January 2014

Our approach to teaching research methods – MSc Sport and Exercise Psychology, University of Portsmouth

The 30 credit unit in *Applied Research Methods* at Portsmouth is designed to give students an advanced understanding of research philosophy and epistemology, reviewing research articles, ethics, research design, data collection techniques, and hands on experience of data analysis and interpretation. In developing this unit we have worked hard to provide a curriculum that introduces students to a suite of research techniques that span qualitative, quantitative, quasi-experimental, and experimental approaches. We were also cognisant to avoid students self-selecting a side of the qualitative-quantitative distinction and aimed to encourage students to think through their research questions and identify best-fit design and methods.

Content

The content aligned with qualitative research covers research designs (e.g., ethnography, action research, single-subject designs); data collection techniques (e.g., interviews, focus groups, observation); data preparation (e.g., transcription) and analysis (e.g., grounded theory, IPA, discourse analysis, narrative analysis); triangulation, critical friends, and reflexivity; and reporting and dissemination of findings.

The content aligned with quantitative research covers data collection (study designs, methods of data collection, power analysis); scale construction, reliability and validity; data screening, cleaning and strategies for dealing with missing data; factor analysis; reliability analysis; MANOVA, hierarchical multiple regression; multilevel analysis; mediation and moderation; and reporting and dissemination of findings.

Assessment

There is a report to test the students' understanding of statistics – this focuses on their understanding of the rationale for use of particular types of tests and their ability to process, interpret, and disseminate test results.

The qualitative content is assessed through the submission of an APA-formatted method (data analysis section only) and results section for a qualitative interview study. Students are required to conduct and record a 1-hour interview on a topic of their choice with an appropriate participant using a semi-structured interview guide developed specifically for this interview. They must then transcribe and analyse the transcript for elementary themes, before presenting these tentative themes in their submission.

Reflections

The model for this unit provides a balanced introduction to many advanced issues allied with applied research within our field. This balance invariably creates challenges for students who have a fear of statistics or a distrust of all things narrative, but typically results in a more rounded introduction to advanced research methods training. To develop the unit further, we will look to incorporate more advanced (e.g., Bayesian methods), alternative (e.g., mixed-methods) and evidence synthesis (e.g., narrative review, meta-analysis, and systematic review) approaches to the curriculum.

Dr Chris Wagstaff CPsychol AFBPsS, June 2014

Research Methods teaching on the Doctoral training programmes in Clinical Psychology and Forensic Clinical Psychology at the University of Birmingham

We offer a 3-year Doctorate in Clinical Psychology and a 4-year Doctorate in Forensic Clinical Psychology. The majority of our programme is not modular, but our Research Methods course takes the form of a 20 credit module in Year 1. There is some supplementary, 'extra-modular' research teaching in Year 2. These are professional doctorates, and at Birmingham they are classified as research degrees.

We approach the Research Methods element of training with the aim of preparing trainees to identify and evaluate evidence, and to plan and conduct research relevant to applied practice. Given the range of domains in which they work, and the array of methods which are available to them, we view the teaching as having two primary functions. Firstly, we aim to give trainees the opportunity to develop an informed position on applied research and its relationship to practice. Secondly, we aim to provide them with sufficient scaffolding, regarding the use of the key methods, to enable them to adapt and apply them to real-world world problems, and to guide their further learning in the future.

Philosophy and concepts

In the early part of the course, we explore what research is for, and we examine the different ways in which various biases can influence the production and interpretation of evidence. We use team teaching to provide a dialogical example of the relationship between evidence and practice, and between epistemology and method, with tutors role-playing caricatures of 'strong' realist and relativist positions. We aim to introduce the idea that, underlying many polarities (e.g. qualitative and quantitative, empiricist and interpretivist) there are shared concerns about the meaning and quality of evidence. We invite trainees to identify and explore some of these shared concerns.

Evaluation and review

We provide an introduction to the logic of systematic literature searching, a typology of different forms of review, and some discussion of their different functions. We introduce quality frameworks for the evaluation of different types of literature, and discuss common issues which arise in the implementation of applied research (particularly intervention studies). We also provide a further session on meta-analysis. Colleagues from the library also support the module, by providing 'hands on' training in the use of electronic databases. Trainees conduct a systematic search on an area of literature which is relevant to their clinical placement, and they write up a summary and evaluation of this literature as an annotated bibliography. In the final research volume of the thesis, trainees include a further, standalone literature review, relevant to the area of their empirical project.

Research designs and methods

We run sessions on small n research (single case experimental designs), intervention and outcome studies, correlation designs and survey methods, service-related research, and qualitative inquiry. Our teaching on qualitative inquiry involves an interviewing exercise, and the session on qualitative analysis explores the relationship between epistemological focus and methodological practice through a coding exercise where trainees apply generic concepts (i.e. experiential, discursive and narrative) to their interpretation of a transcript. Further optional,

supplementary workshops on specific qualitative methods (e.g. IPA) are offered, as required, in Year 2. Our teaching in quantitative analysis involves a 'hands on' refresher session on SPSS, and includes linear models, mediation and moderation, and simulation methods.

Ethics

Discussion of ethical issues in different approaches to applied research inevitably arises during the sessions above, so in the dedicated session on research ethics, we take a pragmatic approach. We describe the process of preparing and submitting an application for ethical review, in some detail, outlining the issues which will concern ethics committees, and discussing possible solutions. Then we ask trainees to work in small groups, and to provide ethical review of a sample application. These experience-based exercises provide a valuable insight into the high standards expected of applications, and the extra level of scrutiny generated by group review processes.

Process

We aim to foster strong links between the focus of our teaching and the trainees' practical needs. Thus, trainees will conduct single-case experiments, and develop service-related research projects, while on their professional placements.

In order to reduce the risk of delay with ethical review, and to set a stringent quality standard for the final thesis, we also provide a very structured process for trainees to follow during the first year, as they prepare their ideas for their major empirical projects. This includes a 'research proposal facilitation session,' where trainees meet with one of the course team's Research Tutors to receive detailed feedback on the practical, ethical and methodological implications of their ideas, before they begin to develop their proposal in detail. We also use this to spot useful opportunities for service-user involvement in the further development of the project, and to recommend these to the trainee. We are fortunate that the University has an established service-user research group, and that this group are keen to support trainee research.

After the facilitation session, trainees go on to develop a formal research proposal, which is the main assessment for the Research module. This proposal is submitted in the format of a generic ethics application, and is supplemented by a short literature review. We provide feedback on both the coherence and viability of the proposal, and any issues which are likely to be of concern to an ethics committee. Our timescale presumes that most trainees will aim to submit their applications for ethical review during the first term of the second year.

Reflections

From experience with the Group of Trainers in Clinical Psychology, we believe that the main issues for us will also be recognisable as perennials for most other Doctoral programmes. There is, for example, a tension between facilitating the development of programmatic research amongst the course team and their colleagues, and enabling trainees to develop strong and innovative ideas of their own. Similarly, the 'pitching' of research methods teaching on a doctoral training program can be difficult when the cohort may contain a blend of experienced post-doctoral researchers (with less direct clinical experience) alongside experienced clinicians (with relatively little research experience). We find that these issues need a bit of improvisation and adjustment each year.

In terms of our research curriculum, we try to balance the need for generic training with the changing demands of the clinical environment. Thus, in recent years, we have supported growing numbers of trainee projects using: innovative qualitative designs (dyadic and short-scale longitudinal studies, for example); meta-analyses and meta-ethnographies; and sub-studies of larger, more complex programmatic projects. We envisage that these areas will continue to grow, but also that we will begin to see more integration of trainee projects with local programmes of service-development (this is the area of teaching on the research course which has probably reviewed more often than any other over the last 10 years), and more studies of the barriers and mechanisms for the implementation of evidence-based practice itself.

*Dr Michael Larkin MBPsS (Senior Research Tutor)
and Dr Chris Jones (Research Director), June 2014*

Research Methods training for PhD students on the research degree programme in Psychology at City University London.

Research methods training for our PhD students in the Psychology Department at City University London is provided through a number of structured and unstructured activities that cater for the specific training needs that arise in different sub-disciplines of psychology, whilst fostering broader academic skills in the conduct and dissemination of original research. Students joining the PhD programme and who have not already gained a masters level qualification in research methods are normally expected to complete some formally taught modules during their first year of study to provide them with the necessary research methodological foundations for their area of research. The number and type of modules required depends on the students' field of study as well as their academic background. Normally students pursue one or two 15-credit modules available through the department's MSc programmes in Organisational Psychology, Health Psychology, Behavioural Economics and Clinical, Social and Cognitive Neuroscience (under development at the time of writing). Where relevant, students can also access courses in other departments through the City Graduate School's *Doctoral Training Framework*, which co-ordinates resources for research students across the Institution. Students can also attend courses externally through national and international doctoral training consortia such as the ESRC's National Centre for Research Methods and the Network of European Neuroscience Schools (NENS) of which the department is a member. Examples of the modules that our students typically pursue internally within the department include:

Research design and statistics: This module introduces students to prominent approaches in qualitative data collection and analysis and to questionnaire design and factor analytic techniques. It also provides instruction on quantitative methods including generalised linear models and the use and interpretation of multiple regression.

Research design and analysis: This two-part module provides detailed coverage of practical and theoretical issues relating to various qualitative and quantitative methodologies, with a focus on particularly those issues that arise in the context of counselling research practices. Topics include Grounded Theory, Action Research & Ethnography, Psychosocial and Phenomenological approaches as well as issues arising in single case studies or small sample size research.

Programming tools for psychologists: This module teaches students basic principles of software programming by introducing them to three software packages that are commonly used in psychological research to collect and analyse data online or in the Laboratory. Students learn how to implement questionnaires online using *Qualtrics*, how to programme laboratory experiments using *E-prime* and *Matlab* and how to analyse and manipulate data in *Microsoft Excel* and *MatLab*. In addition, the module alerts students to the practical and theoretical limitations of the various software packages and also to ethical issues that arise particularly in the context of online research.

Complementing the structured training components, each student's supervisory team provides discipline specific training within the research infrastructure that is provided by the department's major research groups and their laboratory facilities (e.g., the Cognitive Neuroscience Research Unit; Human Memory Research Group; Autism Research Group;

etc..). For example, students carrying out research in the cognitive Neuroscience Research Unit may receive training in the use of Electroencephalography (EEG) or Transcranial Magnetic Stimulation (TMS) techniques. Students carrying out research in the Autism Research Group are normally trained in the administration of gold-standard diagnostic assessments, and those working with infants in the baby lab may receive training in eye-tracking methodologies. In short, students have access to the entire research infrastructure of the department and supervisors ensure that each student acquires the set of specialist and transferable skills that provide them with the foundations for research excellence and independence.

A final level of training, particularly focused on fostering skills in the dissemination of research findings to various types of audiences, is provided through a number of research seminars and formal assessments. Throughout the year, students are required to attend a fortnightly research student seminar at which they are expected to present on their work at least once a year. The seminar is chaired by the Senior Tutor for Research (the PhD programme director) and takes the format of an oral conference session whereby two students typically present for 20 minutes, with 10 minutes allowed for questions and discussion. Students are also expected to attend and contribute to lab meetings and a departmental research seminar and they are required to attend an external speakers seminar series that runs throughout the academic term. Outside the department, students are also encouraged to engage with the Researcher Skills Development programme offered by the Graduate school, which provides further opportunities for students to gain experience in disseminating their work in a variety of formats such as short talks, posters and through social media. To encourage students to disseminate their work at national and international conferences, the department also provides generous financial support for these activities.

Finally, to ensure that students are receiving the necessary training and support needed for them to progress to completion within good time, their progress is monitored through regular supervision meetings and through formal progress reviews every six months. Progress milestones are set and discussed in liaison with the principal supervisor and logged on an online system (Research and Progress) that needs to be kept up to date by the student, and that is closely monitored by the programme director and programme administrator. At the end of each 12 month registration period, students present on their progress to a panel of staff that provides feedback on the current level of progress and makes recommendations for the next 12 month period.

Reflections

Our department has recently expanded substantially in terms of the number of academic staff, the research infrastructure and the number of PhD students. This expansion has led to substantial improvements in our research training provisions and feedback from students through regular Staff Student Liaison Committee meetings suggest that they are overall very content with the opportunities for research methods training that are available. The recently established Graduate School in the University has led to further resources that many of our students avail themselves of. They are particularly keen to engage with the Researcher Skills Development Programme, not only because it offers them opportunities to disseminate their work but also because it provides opportunities for them to engage with PhD students in other disciplines.

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