A comparative study of methodological approaches to reviewing literature

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Executive summary

Introduction

Evidence-based policy agendas have prompted widespread debate about the role of research reviews and the merits of different approaches to research synthesis. The purpose of this study was to undertake a comparative review of the methodologies used by eight literature review projects commissioned by the Higher Education Academy. The aim was to generate insights into:

— the nature and characteristics of the methodologies used by the different review teams and the thinking behind these approaches
— the ways in which project teams approached, experienced and negotiated the different stages of the review process
— the potential learning for future review projects (commissioning and undertaking reviews).

The study was conducted over a four-year period from 2005 to 2008. It comprised desk-based research and empirical work with the eight review teams.

Findings – review approaches

While the variety of methodological approaches across the eight reviews defies simple classification, some lines of distinction can be drawn; for example: using established review methodologies versus using more generic ‘literature review’ approaches; developing new approaches to reviewing versus using/refining existing approaches; using empirical enquiry as well as literature analysis versus only analysing the literature; including grey and non-research literature within the review or not; and involving practitioners within the review team or not.

There were six main emerging factors influencing review teams’ thinking about how they undertook their projects:

— the nature of the literature (e.g. its size, maturity and diversity)
— the nature of the topic (e.g. what aspects of the topic are worth considering)
— methodological perspectives (e.g. the desire to pursue a particular methodology)
— conditions set by the commissioning body (e.g. timescale and budget affecting breadth, depth and staffing)
— team experience and expertise (e.g. methodological and substantive experience)
— anticipated audiences and outputs (e.g. usefulness for practitioners).

Findings – review processes

The ways in which project teams approached and experienced the review process can be summarised in relation to the following review stages:

Scoping

— The scoping process was driven by three underlying questions: What is needed? What is meaningful? What is practical?
— Answering these questions was helped by: looking for contrasts with previous reviews/research; using findings from previous research; gaining ideas from focus groups; formulating clear review questions; defining and categorising the substantive topic; and thinking carefully about practicalities.
— Scoping was revisited during the review process in the light of new knowledge about the nature and scale of the literature.

Searching

— There was variation in the number and range of search methods used by the review teams.
— All used some form of electronic database searches supplemented with other electronic and manual methods.
— Several teams also reported ways in which they used modified or alternative techniques in order to access specific types of literature or to overcome difficulties.

Selecting

— All teams selected material on the basis of inclusion/exclusion criteria, although the number and specificity of such criteria varied.
Selection on the basis of relevance and timescale was common to most teams, along with geographical scope and publication type in several cases. Additional criteria included research methodology and publication accessibility.

With one exception (a ‘best evidence synthesis’), review teams did not select publications on the basis of quality.

**Analysing**

Research quality was elaborated and assessed with regard to methodological rigour, internal coherence, validity and reliability, and genre-specific criteria.

The process of judging quality presented challenges for several review teams owing to the time involved, the expertise required and the complexity of the issues.

Quality appraisal was part of a wider process of analysis of publications, which tended to involve completion of database/pro forma entries for individual items and (in some cases) the development of analytic maps/maps for the literature as a whole.

**Synthesising and reporting**

Most review teams did not articulate a particular approach to synthesis, although a pattern of presenting a general overview of the literature followed by more detailed discussion of the findings by thematic area was common.

The meta-ethnography review on Influencing thinking and practices adopted a particular approach to synthesis based on interpretative comparison and inductive analysis.

Two challenges that arose during synthesis and reporting concerned deciding which studies should feature more or less prominently in the final report and how the analysis of different bodies of literature and data sources could be brought together most productively.

**Team processes and time pressures**

Questions of team processes and time pressures featured across all of the review stages.

Review team working was aided by opportunities for regular face-to-face dialogue, careful allocation of roles and responsibilities within the team and drawing in of specialist expertise from beyond the team.

The negotiation of time pressures was helped by strategic thinking about how much is done, what is important, when things are done and what the end point is.
Implications

For those undertaking reviews:

1. All research reviews should be seen as an opportunity not only for substantive learning about the review topic, but also for methodological learning about the review process within and beyond the research team and funding body.
2. It is critical to recognise that review methodologies (including established approaches) need to be adapted and developed for the specific features of individual review projects.
3. The significant role of project leadership in research reviews needs greater emphasis.
4. The accounts of the review teams in this study suggest that education/social science review teams can experience challenges with: scoping; analysis and appraisal; and synthesis.
5. In formulating the make-up of review teams, it is important to think broadly with regard to several different kinds of expertise.

For those commissioning reviews:

1. Organisations commissioning reviews need to recognise the important role that they can play in helping to develop methodological capacity and understanding in relation to research reviewing.
2. It is important to support the adaptation and development of review methodologies in relation to the specific features of individual review projects.
3. In selecting review teams, experience of and approach to review project leadership ought to be one of the criteria for selection or points for discussion.
4. Funders of education/social science reviews should pay particular attention to the ways in which review teams deal with challenges associated with: scoping; analysis and appraisal; and synthesis.
5. Commissioning decisions ought to take careful account of the mix of expertise within review teams.
1. Introduction

1.1 Background

Since 2005, the Higher Education Academy has funded eight literature reviews on topics relevant to higher education policy and practice. The purpose of these literature reviews has been to identify and make explicit the issues, concepts and evidence associated with particular topics of current significance in higher education. These reviews provide a mechanism for achieving one of the Academy’s strategic aims, that of identifying and disseminating effective practice in the higher education sector.

The eight review reports, as well as review bibliographies are now available on the Academy’s website. The reviews identify relevant questions, issues or sources of evidence and provide a synthesis of relevant information from research, evaluation and other sources. They intend to inform the research and practice of practitioners, policy makers and researchers in higher education.

As part of the process of commissioning, undertaking and disseminating these literature reviews, the Academy conducted an explorative and comparative study of the different methodological approaches used across the eight literature reviews. Proposals were first selected on the appropriateness of the proposed methods for undertaking the review and further selected to ensure a variety of approaches across the four topics in each commissioning cycle. The Academy stipulated that individual teams should be reflexive about their particular approach – defining its characteristic features, identifying its pros and cons and reflecting on its appropriateness for higher education research.

As described in more detail below, the Academy also brought the teams together, twice in each commissioning year, to compare and contrast their different reviewing methodologies. By bringing teams together, it was possible to explore similarities and differences between the various approaches and generate insights into the various stages of the review projects and the practicalities encountered along the way.

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1. These literature reviews were specifically commissioned by the Academy to highlight evidence-informed approaches to policy and practice, in response to a specific invitation to tender (see Appendix 1). As such, they are not the only literature reviews that have been funded by the Academy.

2. See forewords by Mike Prosser in the executive summaries of the 2005-06 Academy literature reviews.
1.2 Aims

The aim of this study was to undertake a comparative review of the methodologies used by each of the literature review projects in order to generate insights into:

— the nature and characteristics of the methodologies used by the different review teams and the thinking behind these approaches
— the ways in which project teams approached, experienced and negotiated the different stages of the review process
— the potential learning for future review projects (commissioning and undertaking reviews).

This research will be used to inform the Academy’s approach to commissioning reviews in the future (Higher Education Academy, 2006, p. 1).

1.3 Methods

The study was conducted over a four-year period from 2005 to 2008. It comprised desk-based research as well as empirical work with the eight review teams. It was stipulated in the call for proposals that those commissioned to undertake a literature review would be required to be involved in this comparative methodological review.

The desk-based research comprised the examination of existing literature on review methodologies, to help situate this current study within the context of existing evidence. It also involved an analysis of the teams’ published reports and databases (and, in some cases, conference papers/journal articles, e.g. Kahn et al., 2006b). In the writing of their final reports, teams were asked to give a reflective account of their chosen methodology. They were asked to reflect on the pros and cons of their approach, as well as the appropriateness and application of their approach in the context of higher education research. These reports were an important source of initial comparative methodological insights. They were used to draw up the interview schedule for the team interview and identify the themes used to explore further in the group discussions.
The empirical aspect of the study employed the following methods:

— **Pre-review meeting** – Once teams were selected and prior to starting their reviews, the four teams were brought together in each commissioning period for a start-up meeting. During the meeting, each team gave a presentation on the characteristic features of their approach.

— **Individual team interviews** – The team interviews were held upon completion of the review with one (or, in some cases, two) members of each project team (usually the project director), either face to face or by telephone. Their purpose was to enable more detailed discussion of aspects of individual teams’ methodological approaches and experiences of conducting the review, as well as to explore the methodological decisions that were taken. A written account of each of these interviews was produced using audio recordings and field notes.

— **Post-review focus group** – At the end of each review period, representatives of the four teams were brought together once again to compare and contrast the different approaches, as experienced by the teams. This meeting was an opportunity by which to explore similarities and differences between the teams’ methodological approaches, experiences and reflections. The group discussions helped to identify universal (as well as confirm specific) challenges and resolutions that were experienced in employing the various review approaches. It allowed for a joint exploration of the practicalities and the emerging phases involved in conducting reviews. A written account of each group discussion was produced using audio recordings and written field notes.

The analysis of the data from the focus group discussions and interviews involved coding in relation to the three main research foci noted above (nature and characteristics of review approaches; experiences of review stages; and implications for future reviews). For each of these three foci a number of thematic categories and sub-categories were developed. Some of these categories/sub-categories emerged more from the data such as the factors influencing teams’ choice of review approach (see Section 4), while others came more from the wider literature such as the stages of the review process that were taken from Boaz et al. (2004) (see Section 5). The coding process and subsequent extraction of coded segments was undertaken using a qualitative analysis software package (MAXQDA).
1.4 Structure of the report

The remainder of this report is in five sections. Section 2 considers the study’s broader context with regard to evidence-based agendas and literature on research synthesis and review practices. Section 3 provides a brief description of each of the eight review projects. The next two sections deal with the study’s main findings. Section 4 compares and contrasts the approaches adopted by the review teams and examines the factors that were influential in teams’ choices. Section 5 explores the ways in which the different stages of the review process were approached and experienced by the project teams. The report concludes with a discussion of the study’s overall findings and their implications for the undertaking and commissioning of future reviews.
2. Background context

This section locates the present study in relation to broader contexts of evidence-based agendas, debates over research synthesis and recent literature on research reviewing practices.

2.1 Evidence-based agendas

The last 15 years have seen marked changes in the role of evidence within a wide range of public policy areas including education (e.g. Davies et al., 2000; Oakley, 2002; Davies, 2004; Nutley et al., 2007). Evidence-based policy has been defined as "an approach that helps people make well-informed decisions about policies, programmes and projects by putting the best available evidence from research at the heart of policy development and implementation" (Davies, 2004, p. 3). It represents an international phenomenon that “has become a major part of many governments’ approaches to policy making and the machinery of government” (Davies, 2004, p. 1). Indeed, in the field of education, it is clear that evidence-based approaches have become part of the political discourse in many countries of the EU, the OECD and beyond (e.g. Ozga et al., 2006; European Commission, 2007; Eurydice, 2007; OECD/CERI, 2007).

The significance of such developments to the present study is the emphasis that evidence-based agendas have placed on the accumulation of existing research evidence. A key argument has been that “the main channel of communication between researchers and [research users] ought to be reviews of whole fields of research, rather than reports of single studies” (Foster & Hammersley, 1998, p. 610). Against the backdrop of concerns about the quality, coherence and impact of educational research in the UK and internationally (e.g. Hillage et al., 1998; OECD/CERI, 2003; Oancea, 2005), the last decade has seen a growth of interest in reviews of research as a means of improving the links between educational research, policy and practice. A whole new infrastructure of research synthesis/brokerage organisations has emerged. The What Works Clearinghouse in the US and the Evidence for Policy and Practice Information and Co-ordination (EPPI) Centre in England are two of the most frequently cited examples, but there are many other similar initiatives internationally (see examples from New Zealand, Canada, Denmark and the Netherlands in OECD/CERI, 2007). Not surprisingly these developments in education are part of much larger trends across...
social policy: “These bodies have spread themselves right across the public policy waterfront; there are now reviews of research into almost every conceivable human condition and social problem” (Pawson, 2002, p.212).

Underpinning many of the developments described above has been the notion of ‘systematic review’, which has its origins in evidence-based medicine. Systematic reviews are described as “synthesising the findings of many different research studies in a way which is explicit, transparent, replicable, accountable and (potentially) updateable” (Oakley, 2003, p. 23). Responses to the introduction of such approaches within education have been decidedly mixed, revealing the wide range of perspectives that exist on this issue.

2.2 Perspectives on research synthesis

The growth of activity in research synthesis has led to widespread debate about review methodology, in particular the role, purposes and approaches used in systematic reviewing. Proponents of systematic review have argued that traditional reviews of research “commonly focus on the range and diversity of primary research using a selective, opportunistic and discursive approach to identifying and interpreting relevant literature” (Oakley, 2003, p. 23). Meanwhile, the model of systematic review has been challenged on various grounds such as for being ‘positivistic’ in nature, limited to questions about ‘what works’ and a form of political control of educational research (e.g. Elliott, 2001; Hammersley, 2001).

While further discussion of such debates is beyond our scope here, there are two general points that are worth noting. First, review methodology is intricately connected with deep-seated epistemological perspectives on the nature and quality of evidence (and its relationship, if any, to policy and professional practice). Secondly, there is a growing complexity of review methodologies and review types. Writing several years ago, Davies (2000) identified a number of contrasting approaches to research synthesis, and since then there have been further developments such as the emergence of realist synthesis (Pawson, 2002) (Box 2.1).
Box 2.1: Examples of review methodologies

**Narrative reviews** – “attempts to identify what has been written on a subject or topic, using which methodologies, on what samples or populations, and with what findings”

**Vote counting reviews** – “attempts to accumulate the results of a collection of relevant studies by counting how many are statistically significant in one direction, how many are neutral and how many are statistically significant in the other direction”

**Meta-analysis** – “the statistical analysis of a large collection of analysis results from individual studies for the purpose of integrating the findings”

**Best evidence synthesis** – “reviewers apply consistent, well justified and clearly stated a priori inclusion criteria of studies to be reviewed [such as] germane to the issue at hand, based on a study design that minimises bias and has external validity”

**Meta-ethnography** – “seeks to go beyond single accounts through being interpretive rather than aggregative […] constructing interpretations not analyses and by revealing the analogies between accounts”

**Realist synthesis** – “using research review as a means of testing theories about why particular interventions work”

*Source: Davies (2000) and Pawson (2002)*

As well as variety of review approaches, there is also a diversity of review purposes. A recent TLRP Research Briefing (Torrance & Sebba, 2007, p. 2) distinguishes between several different types of review on the basis of their main purposes (Box 2.2). The authors argue that the role of reviews needs to be seen in much broader terms than simply in relation to informing policy.
Box 2.2: Examples of review types

Reviews for academic and scholarly purposes such as:

i) teaching texts summarising key work in the field
ii) PhDs or similar pieces for academic accreditation and induction summarising and evaluating research in relation to a particular topic or problem
iii) journal papers/research reports (a) as a preamble to/basis for reporting primary research; (b) definitive of the field; (c) reconceptualising the field
iv) proposal writing, which is a very truncated form of PhD model.

Reviews for policy and practice purposes such as:

i) policy reporting (a) rapid reactive; (b) rapid informative
ii) policy informing (a) summarising field prior to commissioning primary research; (b) comprehensive review on ‘what works’
iii) evidence for practice (a) professional standards; (b) effective practice (curriculum, pedagogy and outcomes); (c) efficient practice (organisation and management)
iv) resources for practice, i.e. evidence and materials to inform practice.

Source: Torrance & Sebba (2007, p. 2)

Both of the above boxed lists could be easily extended and/or modified. The key point, though, is that educational research synthesis is a complex area of activity with a range of different (and often contested) perspectives, approaches and purposes. It was against this backdrop that the Academy sought to commission a series of reviews using different methodological approaches so as to better understand the nature, strengths and weaknesses of different approaches.
2.3 Locating the present study

Not surprisingly the growth of commissioning of research reviews by Government departments and other funders has led to a growing literature on research synthesis. In particular, there has been an increase in publications: (i) providing guidance on how to do different kinds of research reviews (e.g. Hart, 1998; Government Social Research Unit, 2003; Petticrew & Roberts, 2006); and (ii) exploring and problematising the role of systematic and other kinds of research reviews in relation to wider evidence-based agendas (e.g. Elliott, 2001; Hammersley, 2001; Gough & Elbourne, 2002). What has been less evident, however, is exploration of the actual practices and processes of research reviewing. As pointed out by Boaz et al. (2004, p. 3) “the wider practices of commissioning, managing, reporting and using research reviews have been little examined”.

With time, however, this situation is changing. Reflective accounts of reviewing experiences (e.g. Best, 2003; Andrews, 2004) and research synthesis initiatives (e.g. Oakley, 2003) are becoming more evident. There have also been a small number of comparative analyses of reviews within education (e.g. Foster & Hammersley, 1998) and across different sectors (e.g. Boaz et al., 2004, 2007). The common message emanating from these studies is the complexity of research reviewing as a practice. Boaz et al.’s (2004, p. 6) analysis of 28 social science research reviews, for example, found that “the majority of reviews did not fit neatly within the ‘narrative’ or ‘systematic’ paradigm”. Instead, “the distinctions between different review types are blurred, and similarities and differences between ‘methods’ were found in unexpected places” (ibid., p. 6). This leads to the conclusion that “there are many ways of doing research review successfully” (Boaz et al., 2007, p. 16).

What this suggests is that our understandings of reviewing need to be better grounded in the specific ways in which review strategies are developed and review processes are carried out. It is in this way that the present study seeks to connect with and contribute to wider knowledge on research synthesis through in-depth analysis of the practices, processes and experiences of eight review projects.
3. Overview of review projects

This section provides a brief description of each of the eight review projects commissioned by the Academy.

3.1 The undergraduate experience of blended e-learning

This review was conducted by a team of researchers at the Oxford Centre for Staff and Learning Development at Oxford Brookes University (Sharpe et al., 2006). Its stated aim was to “review existing research and practice, identify key studies and issues, and make recommendations to guide future policy, practice and research” (p. 8).

The team defined five key research questions:

— How is the term ‘blended learning’ being used in Higher Education?
— What are the underlying rationales being used for promoting blended learning?
— What monitoring and evaluation strategies are being adopted for ensuring and enhancing the quality of blended learning?
— What impact is blended learning having on the student experience?
— What are the success factors for blended learning?

The team adopted a methodology to answer these research questions that involved a mix of desk-based research and empirical work with eight higher education institutions, seeking to synthesise the available evidence.

The desk-based research involved manual searches of several electronic databases and journals and further requests for articles through relevant email distribution lists and the project website, to reveal 300 peer-reviewed articles. Each article was logged into EndNote and given a set of keywords (defined by the research questions). The studies were assessed against a set of inclusion criteria, developed by the team during the search process. The aim of this process was “to make visible existing research, policy and practice which had transformed the student learning experience, been embedded over a number of years and been thoroughly evaluated” (p. 12). The process produced a limited number of key studies, which were later prioritised in the synthesis.
The empirical research involved undertaking eight institutional visits and conducting interviews to identify contextual institutional strategies and procedures, as well as examples of potentially ‘effective’ or ‘transferable’ practice. The visits were to institutions that were known to be “long-standing and successful implementers of blended learning” (p. 14). During each visit, interviews were held with two institutional representatives (typically with heads of e-learning or quality enhancement) to identify examples of practice and explore the rationale and history behind the institution’s policies and practices. The data were collated using NVivo and coded using the same keywords used to code the peer-reviewed texts.

The review team sought to merge together the information from both the key texts and the empirical work into the narrative of each chapter. The focus on key texts prohibited the review from evaluating the literature as a whole, yet the team regard that the report benefited from the triangulation of different evidence sources. The method thereby facilitated the aim of identifying possible ‘effective and transferable’ institutional blended learning practices.

### 3.2 The first-year experience

This literature review was carried out by two principal researchers from the Centre for Research and Evaluation at Sheffield Hallam University, with support from a colleague at the Centre (Harvey et al., 2006). The aim of the review was to identify and model the key issues affecting the first-year experience (at undergraduate and postgraduate level) as well as explore the methods used to evaluate and research the topic. It drew on both published and grey literature and looked for issues that were common across institutions and those more institution-specific. The team examined the variability in the first-year experience among students, according to ethnicity, age, gender, disability and socio-economic grouping, as well as international students. They also explored the topic from the perspective of different stakeholders (e.g. university staff, employers, family).

The team collated and analysed over 700 items of published and accessible grey literature (i.e. sources without an ISBN number). A comprehensive search was undertaken for published literature, between 1986 and 2006; indicative publications before this date were also considered. Grey literature was collected through online searches by the team and through a systematic exploration of in-house material produced by a sample of four higher education institutions, selected to cover a range of institutional types. The consideration of
published and grey (i.e. unpublished) literature represented two ‘complementary’ strands of the review. It was the intention of the team “to see the extent to which published literature and institutional grey literature reflected similar concerns” (p. 10).

To help establish a focus for the literature review and identify the sub-topics pertinent to the first-year experience, the team organised two focus groups with staff and students. The themes raised by the focus groups were later mapped against those found in the literature; these proved particularly useful for the review of grey literature.

Given the quantity of material, the team reported that the bibliographic database was ‘invaluable’ as it facilitated the retrieval and tracking of information. It was used to collate papers and abstracts and categorise the literature. Published literature was coded according to the information they contained using a set of predetermined criteria (i.e. topic, relevant sub-categories, scope of the study and research method). Grey literature could be sorted into six categories (including module/course evaluations; usage of student facilities/services; data on student cohorts, retention and progression; information for first-year students; surveys; and one-off studies). It was noted that institutions held a lot of information pertaining to the first-year experience, but they rarely made connections between these sources. The team analysed these two bodies of literature separately, in part due to the need to situate grey literature in its context. The report reflects the key topics that emerged from the literature. The team report that one of the strengths of the review is that it “identifies and pulls together the strands of this very large topic, whereas most of the published studies identified about the first-year experience have a particular focus and review only a particular section of the literature” (p. 11).

3.3 The impact of working context and support on the postgraduate research student learning experience

This review was undertaken by a team of four researchers from the Institute of Education and UK GRAD Programme (Leonard et al., 2006). It sought to answer the question: “What are the effects of different elements of the learning context on doctoral researchers’ experiences and outcomes?”

The team adapted the Evidence for Policy and Practice Information (EPPI) systematic review methodology for the purpose of this study, working closely with the EPPI
Co-ordinating Centre. A systematic review is described by the Centre as “a piece of research following standard methods and stages … designed to ensure that the product is accountable, replicable, updateable and sustainable … that is used to answer any kind of review question”.

The team followed each of the standard stages for producing a systematic review, albeit using an abridged version for some of the stages. They began by developing a ‘protocol’ – a working document outlining the review stages, questions, definitions and proposed approach. This was followed by a systematic hand search of relevant material, identified from higher education journals, electronic databases, books, websites and personal libraries. The team refined their search criteria during this process, firstly choosing to exclude North American material and later any studies conducted outside the UK, owing to the sheer quantity of relevant material.

The UK texts (415 in total) were initially 'screened' – the process for selecting what gets included. The inclusion and exclusion criteria were developed as a team, with each team member reading and classifying a set number of texts, then comparing and adjusting and repeating the exercise until an agreement was reached. Those deemed eligible (120 texts) were categorised, using a customised version of the EPPI-Centre review software (EPPI-Reviewer). The team further agreed for consistency a set of 32 keywords to categorise the studies. They then coded a subset of texts, comparing their assessments of the same articles, using the EPPI-Reviewer software, before proceeding to code the rest.

The team subsequently defined a suitable topic for in-depth review, with support from an advisory group, choosing to focus on the question: “What is the impact on research students of the process of examination of a doctoral thesis by viva voce?” They identified 17 texts (across 14 research studies) as being relevant to this topic and applied a modified data extraction process to capture the results and review the methods for collecting these results. This resulted in a set of structured summaries, one for each study. They also appraised the studies for reliability and validity by applying a set of quality assessment criteria, taken from a model by Brunton et al. (2005). The team were somewhat limited in their ability to judge quality because methodological information was not reported in sufficient detail.

The team conclude that the method is a “systematic and rigorous procedure that provides a high level of transparency to other users of the review” (p. 17). The process increased their awareness of the nature of the evidence available on the topic.
This review was conducted by a team of seven academic staff with support from two independent consultants (Kahn et al., 2006a). The review had two key aims – firstly to ascertain the role and effectiveness of reflective practices in programmes for new members of academic staff. In addressing this aim, the team wanted to map how reflection is defined and applied in practice within the literature. The second aim of the review was to trial and evaluate a review methodology based on practitioner engagement.

The team sought to engage practitioners throughout the review process. They adapted and combined a variety of approaches (including realist synthesis and grounded theory) to create an approach that acknowledged the demands on practitioners’ time. The engagement of practitioners was informed by a belief that “if reviews are to inform practice, then practitioners themselves need to be involved in accessing the research literature” (p. 16).

The team started by assessing the current state of practice within the field. An external consultant was used to subdivide the studies into six areas and outline a statement of the conceptual focus for each area. This information in turn determined the foci for the review and informed the search strategy and appraisal pro forma. Sources of evidence were located from journals, conferences, handbooks, websites and relevant previous reviews. Practitioners were initially required to assess the extent to which papers were relevant to one of these six areas. Each was given responsibility for carrying out a specific area of the review and asked to critically appraise each study by assessing the strength and quality of the findings. In practice, they found quality judgements difficult to make, so the approach was adapted to record their observations for each paper against realist reviewing categories (including approach, context and outcomes), with those writing the report undertaking to appraise key texts as required.

It was the intention of the project directors to develop a community of practice within the team, due to the collaborative nature of the review. In reality, however, this was difficult due to the dispersed nature of the team.

The completed pro formas for each study were analysed by the project and associate directors, based on techniques and perspectives from grounded theory. The approach sought to generate a set of themes or issues by coding the data and to draw up a narrative synthesis of the reviewed studies. Practitioners remained involved in reviewing
drafts of the report, with consultant and steering group input. An independent consultant was used to evaluate the effectiveness of the methodology employed and found that “each member of the team brings to the process a cluster of factors and perspectives that influence their approach” (p. 106). Not only were practitioners’ judgements informed by their own practice, but through engaging in the review they increased their awareness of the wider research evidence, which in turn informed their own practice.

3.5 The student learning experience

This project was carried out by a team of seven researchers at Oxford University Department of Education (Ertl et al., 2008). It sought to provide:

— an overview of the ways in which the student learning experience in HE has been and is conceptualised
— an overview of interventions aimed at producing a more effective student learning experience
— an overview of methodological approaches adopted in the literature to investigate the student learning experience in HE and to assess their appropriateness.

There was an emphasis on not only “considering in detail the nature of the student learning experience”, but also analysing “the changing conceptualisation of ‘student learning’ in HE and the methods used to investigate student learning and experience” (pp. 7–8).

The review focused on 196 publications that had been published since 1992 concerning UK undergraduate students’ learning in HE. Analysis of relevant publications took place on three levels:

— Micro level: content – At this level, the review outlines and critically discusses the main findings of selected studies on students’ learning experience in HE.
— Meso level: methods – At the meso level, the review discusses the methods used in the relevant literature to investigate, discuss and describe students’ learning experience in HE.
— Macro level: methodology – At this level, the review looks for the overriding theoretical ideas that guided the selection and conceptualisation of methods used to investigate, discuss and describe students’ learning experience in HE (p. 25).
The team constructed an overview of the included literature in the form of ‘an analytical map’, which took the form of “a grid with research methods along the top and areas of research along the side” (p. 25). Over time, “the map was refined and changed continuously as the analytical work of the review team progressed” (ibid.). The map provides the basis for structuring the discussion of the review’s findings in relation to methodological approaches (e.g. ‘inventory studies’, ‘action research’) and thematic areas (e.g. ‘induction and transition’, ‘student perception of learning’).

In reflecting on their ‘version of a systematic approach’, the team noted that it “produced a workable map of research in a broad and ill-defined area”, “gives a useful indication of dominant and less dominant methodological approaches and thematic areas” and “enabled us to draw disparate studies together in one place” (p. 21). However, certain drawbacks of systematic database searching were also highlighted, particularly in relation to identifying ‘alternative voices’. This led the team to conclude that systematic reviews are not well suited to policy-driven areas such as the student learning experience since they “do not necessarily capture where a field is and where it is going, and alternative voices are not captured” (p. 71).

3.6 Influencing thinking and practices about teaching and learning

This review, undertaken by a team of three researchers from Coventry University and Savin-Baden Associates, sought “to establish what influences thinking and practices about teaching and learning in higher education, how these understandings can inform the higher education community, and to make recommendations to guide future policy, practice and research” (Savin-Baden et al., 2008, p. 3). It was guided by three main questions:

— What does the literature indicate about teaching and learning thinking and practices in higher education?
— What are the tensions and differences across practice and communities, for example e-learning communities, problem-based learning communities?
— What is the relationship between theories of teaching and learning and actual practices?

The approach adopted was interpretive meta-ethnography, which was described as:
… a qualitative approach to managing a large range of literature, from the interpretivist tradition. It presents an analysis of the findings across studies and then interprets it in relation to further themes that emerge across studies. Interpretive meta-ethnography is thus a systematic approach that enables comparison, analysis and interpretations to be made that can inform theorising and practice. (p. 4)

In line with this approach, the review focused solely on qualitative research studies, with the final report being based on analysis of 83 qualitative studies published since 1990 on themes relevant to the review topic. The analysis of studies involved three stages: “(i) reading the studies carefully and examining the relationship between them to determine common themes; (ii) synthesising data and discussing this in order to gain second-order interpretations; and (iii) developing third-order interpretations that added something that went beyond the mere comparisons of the findings of all the studies” (p. 30).

In discussing their methodology, the team report considering and rejecting two alternative approaches:

- A traditional literature review would be unlikely to uncover diversity in the methodologies adopted within the post positivist paradigm, or delineate the broad focus of most educational research related to ways of thinking and practising. […]
- A quantitative meta-analysis would offer very little to the understanding of ways of thinking and practising as most educational research since the 1990s is qualitative. (p. 23)

The team were also motivated by the dearth of examples of qualitative research synthesis in education generally and on the topic of influencing teaching and learning thinking and practices in higher education specifically. Based on their experiences in this review, the review team conclude that the real strength of meta-ethnography is “the opportunity not only to compare studies and the themes identified by the authors, but also to construct an (always contestable) interpretation”. The most significant difficulty, meanwhile, is “the tendency to privilege similarity (and sometimes difference) because the process of sense-making across studies tends to focus on ordering and cohesion, rather than exploring conflicting datasets and contestable positions” (p. 141).
3.7 Innovative assessment across the disciplines

Undertaken by a cross-institutional team of seven researchers from the University of Edinburgh, and Edinburgh Napier and Glasgow Caledonian universities, this ‘analytical review’ aimed:

— to map documented innovations by type of innovation, by discipline/subject area, and by genre or form of publication, while being alert to the variety of potential users of the literature and the end-uses to which it might be put
— to collate and evaluate, within and across the types of innovation differentiated, the conceptual perspectives and frameworks utilised, the nature of the evidence deployed, and wider issues and concerns raised (Hounsell et al., 2008).

More specifically, the review sought to address seven research questions concerning:

— the forms and directions of innovation in assessment across the disciplines
— the distribution of forms/directions of innovative assessment
— the documentation of forms/directions of innovative assessment
— innovative drivers and stimuli
— conceptual, empirical and practical points of reference
— implications for assessment practices, procedures and policies
— observations and recommendations on documenting innovative assessment.

In view of the volume and diversity of potentially relevant literature coupled with the time available, the scope of the review was delimited substantively (i.e. specific definition of ‘innovative assessment’), geographically (i.e. UK literature), temporally (i.e. published after 1996) and by subject (i.e. all subject areas except Medicine). In relation to publication type, a deliberately inclusive approach was adopted in recognition of “the extent to which the literature of innovative assessment not only has a profusion of origins but a diversity of destinations, needs and end-uses” (p. 11). Consequently, “a novel genre-based approach [based on ten different genres of publication such as ‘accounts of practice’ and ‘empirical studies’] was therefore adopted to avoid appraising the literature wholly or principally on research-driven criteria” (p. 11).

The final report (and its associated database) is based on 317 references that were analysed and presented with regard to: (i) innovative themes (e.g. ‘student involvement
in assessment’, ‘use of new technology in assessment’); and (ii) subject disciplines (e.g. ‘Bioscience’, ‘Psychology’). While acknowledging that “the review cannot make an unqualified claim to comprehensiveness”, the authors foresee that “the database should enable those pursuing and documenting innovative initiatives to familiarise themselves more readily with what has been attempted elsewhere and what lessons can be drawn, within and across subject areas”. In addition, they are hopeful that “the typology of genres developed for this particular review may prove to be more widely applicable” (p. 12).

3.8 Learning spaces for the 21st century

The broader aim of this review was “to inform the future design of learning spaces, in order to facilitate the changing pedagogical practices needed to support a mass higher education system with its greater student diversity” (Temple & Filippakou, 2008, p. 10). It was undertaken by two researchers from the Institute of Education, who articulated the project’s objectives as:

— to identify the main types of literature relevant to learning space design, and the main conceptualisations of space issues in these literatures
— to draw from this work implications for policy and practice in learning space design, its use and management, and related activities
— to identify areas for further empirical or methodological study.

The lack of an established literature on the relationship between space and teaching and learning in HE meant that the task of clarifying the scope of this review was not straightforward. The focus was described as being the territory between “on the one hand, literature that undertakes abstract theorising about space, and, on the other hand, works on technical questions regarding its construction and maintenance” (p. 16). This encompassed “a range of disciplinary and professional perspectives, including those related to pedagogy, architecture and design, institutional and space management, and the student experience” (ibid.).

Relevant publications were analysed using a schedule that recorded details of the publication’s abstract, research question, theoretical perspective, disciplinary basis, evidence drawn on, key argument and references to be followed up. This schedule reportedly provided “a valuable reference source for the preparation of the final
report, allowing subject areas with concentrations of literature or sparse coverage to be identified, and trends in the literature to be discerned” (p. 21).

From the outset the review team rejected the use of specific review methodologies such as meta-analysis or systematic review. They explain that:

As we noted in our proposal to the Academy (May 2006), the wide variety of research types involved meant that a meta-analysis or a systematic review analysis methodology would be unlikely to succeed: the nature of the material to be examined cannot realistically be subject to the formal processes that these approaches require. Our subsequent work has confirmed this view (p. 24).
4. Analysis of review approaches

Having described each of the review projects in Section 3, this section considers the similarities and differences between their methodological approaches and the factors that were influential in the adoption of these particular methodologies.

4.1 Areas of similarity and difference

Given the Academy’s specific desire to commission and explore “different methodologies for undertaking literature reviews” (Higher Education Academy, 2006, p. 1), it is not surprising that a variety of approaches is evident across the eight projects. Table 4.1 below provides a recap of the teams’ different approaches and their key methodological features.

Table 4.1: Summary of review approaches

<table>
<thead>
<tr>
<th>Review focus</th>
<th>Review approach</th>
<th>Methodological features</th>
</tr>
</thead>
</table>
| The undergraduate experience of blended e-learning     | Best evidence synthesis + institutional visits/interviews | — Combining literature review and empirical data collection  
|                                                        |                                                      | — Detailed analysis of selected ‘best evidence’ or key studies                        |
| The first-year experience                              | Literature review + exploration of grey literature from four institutions | — Combining literature review and analysis of grey literature  
|                                                        |                                                      | — Use of focus groups to help scoping                                                 |
| The impact of working context and support on the postgraduate research student learning experience | Modified EPPI-Centre systematic review methodology  | — Use of EPPI-Centre procedures with some modifications due to time  
|                                                        |                                                      | — Analysis for the topic generally and in-depth for a specific sub-topic              |
| The role and effectiveness of reflective practices in programmes for new academic staff | Grounded practitioner review                         | — Combination of realist synthesis and grounded theory  
<p>|                                                        |                                                      | — Strong practitioner involvement                                                    |</p>
<table>
<thead>
<tr>
<th>Review focus</th>
<th>Review approach</th>
<th>Methodological features</th>
</tr>
</thead>
<tbody>
<tr>
<td>The student learning experience</td>
<td>Systematic approach</td>
<td>— Use of systematic approach for searching, selecting and analysing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>— Emphasis on conceptual analysis and generation of analytic map of the field</td>
</tr>
<tr>
<td>Influencing thinking and practices about teaching and learning</td>
<td>Interpretive meta-ethnography</td>
<td>— Focus on qualitative studies only</td>
</tr>
<tr>
<td></td>
<td></td>
<td>— Emphasis on interpretative comparison and inductive analysis</td>
</tr>
<tr>
<td>Innovative assessment across the disciplines</td>
<td>Genre-focused analytical review</td>
<td>— Inclusion of many genres of literature</td>
</tr>
<tr>
<td></td>
<td></td>
<td>— Analysis by typology of innovation themes and subject disciplines</td>
</tr>
<tr>
<td>Learning spaces for the 21st century</td>
<td>Literature review</td>
<td>— Charting of a new area of literature</td>
</tr>
<tr>
<td></td>
<td></td>
<td>— Open, inclusive approach to search and selection</td>
</tr>
</tbody>
</table>

Making sense of these different approaches with regard to consistent patterns of commonality and divergence is not a straightforward task. As noted by Boaz et al.’s (2004, p. 6) analysis of 28 social science research reviews: “The distinctions between different review types are blurred, and similarities and differences between ‘methods’ were found in unexpected places”. In a similar way, there is no one typology by which to categorise the approaches used by the eight reviews. That said, distinctions can be drawn along a number of lines including:

— **use of specific or more generic methodologies** — It is clear from Table 4.1 that some teams used approaches based on specific, named review methodologies such as ‘meta-ethnography’, ‘best evidence synthesis’ and ‘EPPI-Centre systematic review methodology’, while others used more generic ‘literature review’ approaches.

— **use of new or existing approaches** — Some projects specifically sought to develop new approaches to reviewing such as ‘grounded practitioner review’, while others were more focused on using (or refining/testing) existing approaches.

— **use of empirical enquiry or not as part of the literature review** — Two projects (*Blended e-learning and First-year experience*) explicitly used some form of empirical investigation such as institutional visits and focus groups alongside identifying and appraising of the literature, while others focused solely on the latter.
— **inclusion of grey and non-research literature or not** – Some teams were deliberately inclusive of different genres of literature (e.g. *Innovative assessment* and *First-year experience*) while others focused primarily on published research literature (e.g. *Influencing thinking and practices* and *Postgraduate research student*).

— **involvement of practitioners within the review team or not** – The team undertaking the review on *Reflective practices* was unique in being largely composed of individuals who defined themselves as practitioners rather than researchers.

Another interesting source of both similarity and difference between the eight reviews is their approach to systematicity. In their study of 28 reviews, Boaz et al. (2004, p. 19) report “an apparent desire to undertake reviews in a more systematic manner”. The same would seem to be true of the Academy reviews, with most providing details of search strategies and selection criteria and several making specific reference to being systematic in some way. When this is looked at in a little more depth, however, it is clear that there are some important differences.

There are some reviews that take their lead from current models such as ‘the EPPI-Centre approach’ and ‘best evidence synthesis’ and so adopt various common features of systematic review. Others, meanwhile, sought to be systematic “but not in an EPPI-Centre way”. One project director talked of being “somewhere between an EPPI-style review and an impressionistic review” as regards having “clear criteria for inclusion and exclusion but acknowledgement that the topic is not really that clearly structured […] so we need to keep it open to an extent”. Another used the term ‘analytic’ to stress, on the one hand, “not wanting to be trapped by a particular model like best evidence synthesis” and, on the other hand, “not just being interpretive [with regard to] all very intuitive and embedded in one’s own thinking”. In other cases there was either scant mention of wider methods of research review (systematic or otherwise) or an explicit rejection of systematic models.

### 4.2 Factors influencing choice of review approach

Given that the eight literature review processes were carried out in different ways, it is important to examine the thinking behind the adoption and development of different approaches. In other words, what kinds of factors drove the use of particular methodologies in particular ways? Based on the interviews with representatives of the different review
teams, it is possible to identify six main factors that seem to have been influential across the various projects (Figure 4.1). These highlight the significance of the literature, the topic, prior methodological perspectives, conditions set by the commissioning body, reviewers’ expertise and anticipated audiences/outputs in decisions about review methodology.

Figure 4.1: Factors affecting choice of review approach

4.2.1 Nature of the literature

It is clear that the approach adopted by several project teams was strongly influenced by the nature of the literature that was to be reviewed. Indeed, one of the participants in the 2007 focus group concluded that:
The lesson from all four [of the 2007 reviews] is that you have to tailor your methodology to the nature of the literature you’re studying. If we’d had the approach decided for us beforehand then it would have made life much harder for us and we’d have been less productive.

In keeping with this, there were three teams that took a deliberately inclusive approach to the selection of literature because of what they knew about the research literature in their particular area. In the case of the Learning spaces review, the lack of an established, recognised field and the need to draw on work from diverse areas with little existing crossover meant that the team “couldn’t see how you could set parameters for excluding certain literatures in advance”. In other words, “by taking a starting point that you weren’t going to accept certain types of studies you just wouldn’t have got anywhere”. Similar kinds of thinking were evident in relation to the Student learning experience and Innovative assessment reviews, which both rejected strict EPPI-style selection criteria as unsuitable for their particular literatures:

Our approach is somewhere in between an EPPI-style review with very strict criteria and an impressionistic review with no clear or explicit selection criteria. That is, we had clear criteria for inclusion and exclusion but acknowledgement that the topic is not really that clearly structured with people using different terms to describe similar things and also it's an area that has seen a huge increase in the amount of material over the last five years … so we needed to keep it open to an extent i.e. we tended to be inclusive in order to be able to map the whole field. (Student learning experience)

I know that the higher education assessment literature has a lot of what I’ve come to call accounts of practice i.e. practitioners reflecting on their own practice, reporting on it and trying to collect some data and/or systematic reflection process. If you simply follow the EPPI model then this type of literature would be excluded as not pukka educational research. The strength of this work is that these are working professionals with huge credibility compared to many
educational researchers who often don’t know about practice in specific disciplines. So finding a way to accommodate this type of literature [within our review] was very important. (Innovative assessment)

As well as affecting decisions at the outset, the nature and extent of literature was also influential during the review process. For the review team studying the First-year experience, the sheer volume of literature impacted on their approach in relation to the time available to undertake detailed analysis and appraisal of individual publications:

I think if we’d been looking at a literature where there were 50 items, then we might have been going down the route of judging the quality of those items and decide which ones to look at, but it wasn’t like that. […] We were looking at such a vast amount of stuff that all we could do was to identify the abstracts and look at what it was talking about.

4.2.2 Nature of the topic

A second factor that affected the way project teams went about their reviews was their views on the nature of the topic. In particular, what aspects of the Academy-identified topics the teams themselves thought were worth exploring and in what ways.

The Reflective practices review, for example, sought to adopt an approach that would lead to “an overall understanding of the review area” rather than one that “might tell you the key things that work”. The reason for this lay in their thinking about the field they were studying:

We were emphasising the overall understanding you need in order to move ahead in this field rather than just ‘Here’s a method that works in these situations’, which is reflecting the complexity of the field more fully. So taking an approach that respects, and is better suited to, this particular area.

Another illustration comes from the Blended e-learning team’s decision to include institutional field visits and interviews alongside their analysis of the published
research literature. The reason for the adoption of this approach was partly due to perceived weaknesses in the research literature (“the peer-reviewed literature could only provide part of the picture”), but it was also driven by the team’s view of what kind of review was needed in order to establish a rich and useful understanding of their topic:

We adopted a methodology that combined traditional desk research with institutional visits. This methodology allows us to describe how the national e-learning agenda and research findings are being interpreted by institutions and their staff and to analyse the impact for their students. (p.8)

4.2.3 Methodological perspectives and positions

Not surprisingly, another important influence upon the approaches used by the various review teams was their existing methodological perspectives and positions. The choices that were made by the teams were reflective of a particular methodological tradition – positivist or interpretive.

The traditions were noticeable in the methodological stance that teams took from the outset. At least three review teams, for example, sought to distance themselves methodologically from an EPPI-Centre model of systematic review. One concern was to avoid the use of “very strict criteria for selecting material, which can result in only five or eight sources being analysed in detail, which, in my view, excludes a lot of relevant stuff”. This issue was particularly pertinent for review teams that wanted to be inclusive with regard to “picking out multiple voices and perspectives, i.e. not just a researcher’s notion of what is rigorous and valid”. There were also doubts about the applicability of ‘the medical model’ of systematic review to education:

My line would be if we are looking for a new drug then up to a point then we can test it in Teeside, Texas and Tierra del Fuego and look to generalise, but you can’t do the same with education because it comes from a context in the first place, and then it’s going to be extrapolated to other contexts. (Innovative assessment)
In addition, the review team working on *Influencing thinking* and practices who used ‘interpretive meta-ethnography’ were motivated to do so because of “concern that [the] EPPI [-Centre] and [the] Campbell [Collaboration] would increase in prominence, so we wanted to get ahead of the game and to test this methodology on a bigger scale”. A desire to try out a new or different way of reviewing literature was not unique to this project. For example, researchers involved in the *Postgraduate research student* review, who opted to use an EPPI-style approach, talked about being “curious to try a new methodology that we’d not used before”.

The influence of methodological perspectives and preferences was also evident in the way some of the review teams set up their projects with strong connections to previous work they’d done. The ‘grounded practitioner’ approach used by the team exploring *Reflective practices*, for example, had close connections with the project director’s earlier investigations into “trying to engage practitioners with the evidence base”. Similarly, the use of student and staff focus groups at the start of the *First-year experience* review clearly built upon data collection processes that members of the team had been using within their institution for many years.

### 4.2.4 Conditions set by the commissioning body

Importantly, all of these projects were commissioned pieces of work whose topic, purpose, focus, timescale, funding, outcomes and (in some cases) scope of the literature were to a large extent predetermined by the Academy (see Appendix 1). It is to be expected then that these conditions were another set of considerations that influenced the way in which the reviews were undertaken. In particular, there were examples of logistical factors such as timescale and budget impacting on:

- **the breadth of coverage** – One project director described how “due to the timeline” his project was unable to go into the grey literature in any depth. Others reported limiting their searches to particular national contexts or disciplinary subjects in light of the time available.
- **the depth of analysis** – Right from the outset some projects were very clear that there was a limit to what they could achieve in the time span. The *Postgraduate research student* team, for example, stressed that the time and funding available meant that they were not able to “go through the quality evaluation of articles as
rigorously as the EPPI-Centre would”.

— **staffing** — Several review teams included a research assistant, but this was reportedly only really feasible in situations where there was a research officer in place already. In other words, the six-month timescale made recruitment and appointment of a new researcher very difficult or impossible. Similarly for team members generally, it was noted that “having people with an idea of the area already” was more important in view of the limited time available (note, however, that the value of having some team members who are unfamiliar with the review topic is highlighted in the next subsection).

### 4.2.5 Experience and expertise within the team

Interviews with review team members highlighted a number of ways in which prior experience and expertise played a part in the conduct of the reviews. From a methodological perspective, firstly, familiarity with particular approaches to research synthesis (such as systematic review and meta-ethnography) on the part of some team members was a strong driver behind the adoption of these methods. Similarly, prior experience of collaborative work with practitioners and of focus groups as a means of generating research foci was influential in the design of two other reviews (*Reflective practices* and *First-year experience*).

In relation to substantive issues, it was clear that many of the review team members had strong connections (as regards previous research, practical involvement and personal interest) with the topic areas under review. This is to be expected given that the Academy’s invitation to tender specified “an understanding of the conceptual issues relating to the review topic” as one of the selection criteria. Such connections acted as an impetus to bid in the first place and a factor enabling quick progress once the project was underway. In several cases, it was the mixture of different kinds of substantive expertise across team members that was most helpful. For example, the *Innovative assessment* team was helped by having expertise from different disciplinary backgrounds and methodological persuasions.

Beyond the methodological (knowing how) and the substantive (knowing what), there was another type of experience/expertise that seemed significant, which might be described as knowing who (cf. Edwards *et al.*, 2007). Members of the *Blended e-learning*
team, for example, explained how their institutional visits were helped by already having “a network of correspondent practitioners, either with personal contacts or people who were familiar [to us]”. Likewise, the grounded practitioner approach in the Reflective practices review was only possible because of existing networks and relationships: “We had a ready access to a group of practitioners and we already knew each other. It was relatively easy to draw together those people”. In addition, several project directors emphasised the importance of face-to-face dialogue among team members during the review process, a fact that was greatly helped by having reviewers who were located within the same institution or city.

While most references to prior expertise and experience were positive in tone, there were a couple of examples where potential drawbacks were highlighted. One issue was the way in which assumptions about a body of literature can create problems down the line if they are proved incorrect. In the Postgraduate research student review, the starting assumption that there was only a very limited UK literature on this topic caused problems for the team, who focused initially on international research and then did not have sufficient time to review the in fact considerable body of relevant UK research. A second point that was made concerned the possible “biases that can creep in” when reviewers are very familiar with the field under review and hence the value of having outsider, as well as insider, perspectives within review teams. This was elaborated upon as follows:

I found that on a previous study that I did about emotional and behavioural difficulties, that although I knew about the field, the people I was working with didn’t know anything about the field, so they were much more hard-nosed about the research, so they were much more inclined to be stricter about studies. […] So I think if you’re an outsider sometimes that helps the report, for quality control, whereas if you’re an insider, you know the field intimately, you don’t waste time looking for stuff where you know there’s not stuff, so I think that it’s good to have that balance in the team.

(Postgraduate research student)
4.2.6 Anticipated audiences and outputs

There was some evidence of review teams shaping their approaches in the light of ideas about eventual audiences and outputs. The Blended e-learning review, for example, specifically included unpublished grey literature as well as published research literature on the basis that their final report would be more “grounded in practice and meaningful to the people who would read it”.

In the case of the Reflective practices review, the ‘grounded practitioner’ approach was specifically designed to establish a “mediating discourse” among practitioners featuring contributions from theory and research (p.16). Underlying this was the idea that “if reviews are to inform practice then practitioners themselves need to be involved in accessing the research literature” (ibid.).

In addition, the First-year experience review used empirical data collection to inform their search criteria and identify literature, in order to make the findings more meaningful to their intended audience.

4.3 Summary

The main findings concerning the approaches adopted by the review teams can be summarised as follows.

While the variety of methodological approaches across the eight reviews defies simple classification, some lines of distinction can be drawn. For example:

— using established review methodologies versus using more generic ‘literature review’ approaches
— developing new approaches to reviewing versus using/refining existing approaches
— using empirical enquiry as well as literature analysis versus only analysing the literature
— including grey and non-research literature within the review or not
— involving practitioners within the review team or not.

A desire to be systematic was common to most reviews, although how this was approached differed considerably. Some teams followed models such as ‘the EPPI-
Centre approach’ and ‘best evidence synthesis’, while others specifically sought to be systematic “but not in an EPPI-Centre way”. In other cases there was either scant mention of wider methods of research review (systematic or otherwise) or an explicit rejection of systematic models.

There appear to be six main factors that influenced review teams’ thinking about how they undertook their projects:

— the nature of the literature (e.g. its size, maturity and diversity)
— the nature of the topic (e.g. what aspects of the topic are worth considering)
— methodological perspectives (e.g. the desire to pursue a particular methodology)
— conditions set by the commissioning body (e.g. timescale and budget affecting breadth, depth and staffing)
— team experience and expertise (e.g. methodological and substantive experience)
— anticipated audiences and outputs (e.g. usefulness for practitioners).
5. Analysis of review process

This section moves into the dynamics of the review process and more specifically the ways in which the different stages of the process were approached and experienced by the project teams. The underlying aim is to better understand the conduct of different kinds of reviews and to identify ideas and reflections that could be useful for future reviews.

5.1 Stages in the review process

In their investigation of social science research reviewing, Boaz et al. (2004, p. 10) argued that “it is helpful to break down the process of conducting a review into a number of stages and to examine each one in turn”. They stressed that while these stages are not necessarily discrete or sequential, “they do encompass the main dimensions of current review practice and offer a useful tool to structure a discussion of methodological issues” (p. 10).

Drawing on this approach, a similar kind of characterisation of the review process has been used to make sense of the eight Academy-funded projects. As shown in Box 5.1, the review process has been understood in relation to six main stages (scoping, searching, selecting, analysing, synthesising and reporting). In addition, two further issues that were found to feature across many of the review stages have been added as cross-cutting issues (team processes and time pressures).

Box 5.1: The review process

Six main stages:

— **scoping** – clarifying the focus and scope of the review
— **searching** – identifying potentially relevant literature sources
— **selecting** – deciding which items to include or focus on in more depth
— **analysing** – analysing and appraising the included literature
— **synthesising** – drawing together data/findings from the analysis of included studies
— **reporting** – structuring and creating review outputs.

Two cross-cutting issues:

— **team processes** – establishing, managing and working as a review team
— **time pressures** – negotiating ongoing practical constraints.
5.2 Scoping and searching

5.2.1 Scoping

As commissioned pieces of work, the general focus of all of the reviews was specified by the Academy prior to the tendering process. The 2006 invitation to tender talks of “commissioning a small number of reviews in circumscribed areas” (Higher Education Academy, 2006, p. 1). There is clear acknowledgement, though, that “part of the review process may be to modify the scope or focus of the review topic” (ibid.). This is very much reflected in the teams’ final reports, which include sections about ‘defining the review topic’, ‘delimiting the scope’ and such like.

Across the eight reviews there appears to be a number of strategies that helped teams to clarify their focus and scope. These include:

— **looking for contrasts with existing research/reviews** – In three cases, the main scope of the review was defined partly in terms of doing something different from what had gone before. The Blended e-learning review was deliberately “wide ranging” in response to the fact that previous reviews of e-learning had looked mainly at specific disciplines and technologies (p. 8). The Reflective practices team opted to investigate reflective practices “at a detailed level” because most previous work on the topic was very general in nature (p. 15). The review on Student learning experience placed considerable emphasis on conceptual analysis due to the current literature lacking any “agreement on underlying definitions and conceptualisations” (p. 7).

— **defining and categorising the substantive focus** – It was clear from several reports that getting clearer about the scope of the review involved getting clearer about the topic under study. For some teams this took place early on in the process, while for others it was something that emerged during the review. In most cases, though, it involved processes such as defining terms and developing thematic categories. For example:

> Given the wide ranging nature of the review, it was decided to subdivide the identification and critical appraisal of studies into six areas.  
>(Reflective practices, p. 17)
Delimiting scope and focus […] included adopting a working definition of innovative assessment; […] choosing an approach to classifying by subject area; devising a tentative typology of themes; and tackling the crucial but elusive dimension of publication genre.
(Innovative assessment, p. 16)

— **formulating review questions** – Several review teams clarified their focus in the form of a series of questions. The *Innovative assessment* review describes how the “initial aims formed the basis for a set of more keenly focused research questions”. In some cases, review questions were formulated at two levels (general and specific). Drawing on the EPPI-Centre approach, for example, the *Postgraduate research student* review had an overall general review question and a more specific question for the later in-depth review stage.

— **gaining ideas from empirical data** – The *First-year experience* review was distinctive in using empirical methods to aid the scoping process: “To help establish a focus […] two focus groups were held to explore the issues regarded as pertinent by staff and by students.” It should be noted, however, that this was found to be “very useful for the review of institutional grey literature […] but …] less useful for the review of published literature” (p. 11).

— **using findings from previous research** – It was evident that ideas and findings from earlier research could help in the process of scoping a review. The conclusion from earlier studies that “it is how ICT is used that makes the difference” was a key influence on both the questions (open questions) and the literature sources (unpublished documents as well as research literature) of the *Blended e-learning* review.

— **thinking carefully about what is practical** – Not surprisingly, decisions about scope needed to be taken in the light of project practicalities such as timescale. The *Innovative assessment* team, for example, took “an early decision to exclude Medicine from the subject areas covered […] on …] account of what could feasibly be accomplished within the time-span” (p. 15). Similarly, the *First-year experience* review reported that: “The institutions involved in the grey literature review were limited in number and geographical location because of the time frame and resource base for the research” (p. 10).
Taken together, the above scoping strategies seem to have been underpinned by three recurring questions:

— **What is needed?** This involved teams thinking about the kind of review and review outputs that would be useful and worthwhile in the light of recent developments in policy and practice and trends in relevant research and literature reviews.

— **What is meaningful?** This involved teams thinking about the kind of review and review outputs that would make sense to themselves and others with regard to the substantive focus, methodological approach and conceptual framing.

— **What is practical?** This involved review teams thinking about the kind of review and review outputs that were manageable and achievable in light of the timescale and budget and their expectations about the nature of the literature.

Getting clearer on the answers to and the relative importance of these questions was central to establishing clarity of focus and scope. It is important to emphasise, however, that this was an ongoing process rather then a one-off event. In other words, as described in the *Innovative assessment* review:

> … various difficult decisions about definitions and boundaries had to be provisionally settled at the outset but then refined on the hoof, evolving in the light of the publications retrieved and reviewed. (p. 15)

### 5.2.2 Searching

Moving on to the process of searching, while all reviews outlined their search strategies and methods, there was variation in the number and range of methods used. Across the eight reviews, search methods varied from the use of one or two to many or most of the following strategies:

— electronic database searches (e.g. relating to education, social sciences, medical sciences and government publications)
— journal hand searches
— library hand searches
— published reviews and bibliographies hand searches
— website searches (e.g. general search tools such as Google scholar and specific institutional websites such as university departments)
— specific author and study searches
— requests to networks and listservs
— questions to individual experts (including advisory/steering group members).

In addition to the above methods, several teams also reported particular ways in which they used modified or alternative techniques in order to access specific types of literature or to overcome difficulties experienced (Table 5.1).

Table 5.1: Meeting specific needs and overcoming difficulties with searching

<table>
<thead>
<tr>
<th>Difficulty or specific need</th>
<th>Technique used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locating books and book chapters</td>
<td>Following up the reference lists of the most relevant journal articles in order to identify relevant books and book chapters, “which are often not on electronic databases” (Postgraduate research student)</td>
</tr>
<tr>
<td>Accessing work beyond the mainstream</td>
<td>Using non-database search methods (hand searches and colleagues’ recommendations) to help identify “researchers or methodologies opposed to the dominant conceptual and methodological approaches” (Student learning experience)</td>
</tr>
<tr>
<td>Checking whether apparent gaps are real</td>
<td>Performing additional targeted searches on topics for which the main searches had yielded little or no literature (Learning spaces, Student learning experience)</td>
</tr>
<tr>
<td>Identifying relevant literature by different means</td>
<td>Undertaking additional searches on Social Sciences Citation Index to identify all the authors who had cited a particular article that was key to the review topic (Postgraduate research student)</td>
</tr>
<tr>
<td>Increasing the comprehensiveness of database searches</td>
<td>Searching abstracts (using the Higher Education Abstracts database) rather than titles/keywords since “from a detailed review of one year, it became clear that titles of articles or keywords did not necessarily identify all the articles that addressed the first-year experience” (First-year experience)</td>
</tr>
<tr>
<td>Accessing grey/unpublished literature</td>
<td>Using institutional visits and interviews in order “to give access to unpublished literature and to reveal practices that we could not know about as ‘outsiders’” (Blended e-learning, First-year experience)</td>
</tr>
</tbody>
</table>
5.3 Selecting and appraising

5.3.1 Selecting

All teams were faced with the task of identifying relevant publications from a much larger number of potentially relevant pieces of research. As will become clear from the details below, the way in which this process took place and the criteria that were used varied between the reviews. In general terms, some teams had a more open approach with one or two loosely defined criteria, while others had several tightly defined inclusion/exclusion criteria. With regard to specifics, the following kinds of criteria were used across the review teams:

— relevance – Selecting on the basis of relevance to the review topic/themes was common to all of the projects. In several cases, this involved applying detailed exclusion criteria (e.g. the Student learning experience review excluded studies: “(i) not about student learning, (ii) not related to the UK, (iii) not about higher education and (iv) not about undergraduates”). For others, it was more a sense of “examining literature in [certain] broad categories […], and identifying items that appeared to relate to” aspects of the topic under study.

— timescale – Most of the review teams focused on research published within a certain timescale, such as studies published since 1986, 1999, 1992, 1996 or 2000. Typically this was decided on the basis of pragmatics, that is, what sort of timescale would be likely to provide relevant research in an amount that would be manageable for the team within the time available. At least one team reported revising their coverage from 40 years to 20 years in light of the amount of literature that was available. That said, there was one review using interpretive meta-ethnography where the timescale criterion was about the type rather than the amount of research:

> We judged that the studies in this area conducted prior to 1990 would not provide us with in-depth interpretative data […] as most of the studies until that time had been mixed method or quantitative in nature.
> (Influencing thinking and practices review)
geographical scope – In line with guidance from the Academy in the original invitation to tender (Appendix 1), inclusion/exclusion on the basis of geographical factors varied across the reviews. On grounds of manageability and in light of the Academy’s remit, several teams focused specifically on UK literature, that is work relating to and/or published in the UK. Three reviews, however, made no particular mention of geographical scope in their accounts of selection, and all of these included work from countries beyond the UK. In addition, there was one project where the geographical scope was revised during the project from international to UK due to there being far more UK research than originally expected.

publication type – There was also considerable variation in relation to publication type. Some teams opted for an explicit focus on empirical research (by, for example, excluding “reflective, theoretical or philosophical accounts”), while others very deliberately sought to go beyond published research (by, for example, including institutional grey literature). The Innovative assessment project in particular placed a strong emphasis on recognising and including a wide range of different publication types or genres (see Box 5.2).

research methodology – The Influencing thinking and practices review was alone in selecting publications on methodological grounds. In line with its meta-ethnographic approach, this review excluded “studies that relied on quantitative data [in order] to concentrate on those studies [where] it would be possible to reanalyse data” (p. 23).

publication accessibility/usefulness – The Student learning experience review asked an additional question as part of publication selection, namely: “Is the source relevant and accessible to policy makers, researchers and practitioners?” They also “considered ease of access for target groups at this stage and decided not to include doctoral theses for this reason” (p. 16).

research quality – Most review teams did not include or exclude publications on the basis of quality. This was for one of two reasons: the view that quality issues were more helpfully dealt with during the analysis stage (such as in the Student learning experience review), or the view that excluding on the grounds of quality would be inappropriate for the literature under study (such as in the Learning spaces review). One project, however, which adopted a ‘best evidence synthesis’ approach, did use quality criteria to select publications for in-depth analysis (see Box 5.3).
Box 5.2: Typology of publication genre from the Innovative assessment review

**Account of practice.** A publication that aims to describe and reflect on an instance of a change or development in day-to-day professional practice in assessment, and is usually self-reported and self-evaluated by one or more subject practitioners.

**Commentary/Opinion piece (including a contribution to debate).** A publication that aims to argue for a reappraisal of, or a significant change to, one or more aspects of contemporary assessment practices, processes or policies.

**Compendium (of evolving practices).** A publication that seeks to chart, document and illustrate contemporary and evolving assessment practices and procedures, within or across subject areas, institutions or sectors.

**Empirical study.** A publication that aims to report the findings of a research enquiry, investigation, experiment or survey of assessment practices, processes or policies.

**Enhancement project.** A publication aiming to report the outcomes of a joint initiative by subject practitioners and higher education researchers/academic developers to monitor and improve assessment practices or processes.

**Evaluation.** A publication that seeks to report the outcomes of an independent (third-party) data-gathering evaluation of an assessment initiative or aspect of assessment practice or policy.

**Guide to professional practice (including textbooks).** A publication that attempts to provide a general overview of and orientation to assessment purposes, principles, practices, processes, procedures and/or policies, or to an aspect of one or more of these.

**Guidelines.** A publication that seeks to offer practitioners and others [including administrators, academic managers, external examiners and quality reviewers] guiding principles, precepts or rules of thumb on assessment.

**Review of the literature.** A publication that seeks to appraise and synthesise the findings and outcomes of other publications on one or more aspects of assessment, usually to arrive at an up-to-date picture of what is known and understood about the topic.

**Theory/Conceptualisation.** A publication that seeks to contribute to theoretical advance, whether by proposing a new conceptualisation of assessment processes, practices or policies, or by modifying or refuting an existing one.
Box 5.3: Selecting ‘key papers’ on the basis of research quality

In line with their use of ‘best evidence synthesis’ (after Slavin, 1986), the Blended e-learning review team used a number of criteria to select a subsample of ‘key papers’, which were given priority in the synthesis for the project’s final report. One of these criteria was “evaluations with a justified and rigorous methodology”, which was elaborated as follows:

While we acknowledge the role of descriptions of practice in changing teachers’ practice, we are interested here in making recommendations for evidence-informed practice. We have used anecdotes and quotes from learners wherever we have found them. However, our common themes and recommendations stem from studies which are thorough in their evaluation methodology. This includes piloting data collection techniques, ensuring that samples are sufficiently representative or purposively sampled, that claims for difference are supported statistically, that qualitative data are analysed methodically. We favoured evaluations that were triangulated i.e. that made use of data from a variety of times, methods and sources. (p.13)

5.3.2 Analysing

This section considers how teams approached the task of analysing, and appraising the quality of, relevant publications. As only one team got into issues of quality at the selection stage (see Box 5.3 above) most dealt with quality appraisal as part of the analysis process. Examples of what review teams took into account in relation to quality included the following:

— “internal coherence: Does the strategy of investigation warrant the conclusions reached? Items with obviously inappropriate research designs were excluded” (Student learning experience review)
— “assessment of the validity and reliability of findings based on [nine] agreed criteria taken from a model provided by Brunton et al. (2005)” (Postgraduate research student review)
— “differentiating publications by type of publication or genre, on the grounds that the criteria that might be used to evaluate the merits of a publication falling within one genre (e.g. an empirical study or a theoretical work) would not necessarily be appropriate to appraising the quality of one from a different genre (e.g. a review of the literature or a textbook)” (Innovative assessment review).
It is clear, however, that the operationalising of such questions and criteria presented challenges for many of the review teams. The Postgraduate research student team, for example, reported that:

The main point at which we diverged from the standard [EPPI-Centre] methods was at the stage of the in-depth review [...] Whilst we did considered the quality of studies on which the findings and recommendations of this review are based, our time-frame meant that the tool we used was much less detailed and not applied in as systematic a fashion (p. 11).

Those working on Student learning experience, meanwhile, described how research quality “was the most difficult criterion to apply consistently”. In light of this, the team took the following approach:

If there were doubts about the appropriateness and consistency of research design the decision at this point was always to include the item for further analysis. This strategy proved helpful for the review project. The shortcomings of individual studies highlighted some of the problems of doing research on the student learning experience and helped us to assess and discuss the strengths and limitations of different research approaches (p. 16).

In the case of the Reflective practices review, quality appraisal presented difficulties for the practitioner reviewers within this team:

It soon became clear that practitioner reviewers were finding it difficult to make detailed judgements on the quality of studies and the strength of outcomes measures. [...] The proforma was thus adapted during the initial period of the review, effectively to leave aside detailed assessments of the strength of outcomes measures or the quality of the studies (p. 19).

It is important to appreciate, however, that any appraisal of research quality was carried out as part of a broader process of analysing the included research. During the process
of searching and selecting, for example, all review teams entered potentially relevant articles into databases using software packages such as EndNote (as was specified by the Academy in the project specifications). This involved recording various kinds of information about individual literature items in order to enable subsequent analysis/synthesis processes. As shown in Table 5.2, the specific kinds of information recorded and the purposes for doing this differed between the reviews. Taken together, though, the main reasons for analysing in this way seem to be four-fold:

— categorising and classifying the included literature
— developing an overview of the available evidence
— appraising strengths and weaknesses in the literature
— selecting subsamples of studies for subsequent analysis.

In one project there was a further stage of more detailed analysis of a subsample of work on a particular topic. The approach used for this involved the production of structured summaries of each publication (which represented a briefer version of the EPPI-Reviewer tool for undertaking a full “data extraction and quality assessment”). The purpose behind these was: “to capture the results of the studies together with information on the strengths of the methods used to collect these results. We also attempted to identify the policy and practice implications of the findings presented” (Postgraduate research student, p. 16).

In the Student learning experience project, the analysis of included items was undertaken in relation to ‘an analytical map’, which took the form of “a grid with research methods along the top and areas of research along the side” (p. 17) (Table 5.3). The final report describes how:

All items in the database were then coded according to this map [...] Items were divided between members of the team for more detailed reading and reviewing, taking the particular expertise of the team members into account. [...] We saw this coding as a heuristic and analytical devise, a way of thinking about and evaluating ‘bodies’ of research. The map itself was also revised during this process. (p. 19)
Table 5.2: Different approaches to analysis of publications

<table>
<thead>
<tr>
<th>Learning spaces</th>
<th>Blended e-learning</th>
<th>Postgraduate research student</th>
<th>Innovative assessment</th>
<th>Improving thinking and practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purposes</td>
<td>To identify &quot;subject areas with concentrations of literature or sparse coverage&quot;</td>
<td>To identify high quality key papers</td>
<td>To be able to produce a broad overview of the range and frequency of literature</td>
<td>To summarise key bibliographic information</td>
</tr>
<tr>
<td></td>
<td>To discern &quot;trends in the literature&quot;</td>
<td>To be able to search the database by research question and topic sub-category</td>
<td>To note gaps in the literature</td>
<td>To record details relevant to overall research questions</td>
</tr>
<tr>
<td>Analysis fields</td>
<td>— Abstract</td>
<td>— Publication type</td>
<td>— Identification of report</td>
<td>— Genre of publication</td>
</tr>
<tr>
<td></td>
<td>— Research question</td>
<td>— Author</td>
<td>— Status</td>
<td>— Sample</td>
</tr>
<tr>
<td></td>
<td>— Theoretical perspective</td>
<td>— Date</td>
<td>— Linked reports</td>
<td>— Setting</td>
</tr>
<tr>
<td></td>
<td>— Disciplinary basis</td>
<td>— Title</td>
<td>— Country</td>
<td>— Methods</td>
</tr>
<tr>
<td></td>
<td>— Evidence drawn on</td>
<td>— Source</td>
<td>— Type of degree</td>
<td>— Data collection</td>
</tr>
<tr>
<td></td>
<td>— Key argument</td>
<td>— Abstract</td>
<td>— Research topic</td>
<td>— Notion of validity</td>
</tr>
<tr>
<td></td>
<td>— References to be followed up</td>
<td>— Notes (summary of key points)</td>
<td>— Mode of study</td>
<td>— Positioning of researcher</td>
</tr>
<tr>
<td></td>
<td>— Publication type</td>
<td>— Label (institution name, public/private, country, language, type of evidence)</td>
<td>— Mode of funding</td>
<td>— Themes and concepts</td>
</tr>
<tr>
<td></td>
<td>— Author</td>
<td>— Keywords (linked to the review questions)</td>
<td>— Discipline</td>
<td></td>
</tr>
<tr>
<td></td>
<td>— Date</td>
<td>— Research notes (+ if key paper)</td>
<td>— Study popn.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>— Title</td>
<td>— URL</td>
<td>— Age of learners</td>
<td>— Positioning of researcher</td>
</tr>
<tr>
<td></td>
<td>— Source</td>
<td>— Link to PDF</td>
<td>— Learners’ characteristics</td>
<td>— Themes and concepts</td>
</tr>
<tr>
<td></td>
<td>— Abstract</td>
<td></td>
<td>— Educational settings</td>
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</tr>
</tbody>
</table>
Table 5.3: Analytic map from Student learning experience review

<table>
<thead>
<tr>
<th>Method Area</th>
<th>Reviews</th>
<th>Experimental-based</th>
<th>Action-research oriented</th>
<th>Evaluation</th>
<th>Descriptive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Induction/transition</td>
<td></td>
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<tr>
<td>Approaches to teaching</td>
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<tr>
<td>Curriculum development and resources</td>
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<td></td>
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<tr>
<td>Constructing learning environments</td>
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<td></td>
</tr>
<tr>
<td>Student perceptions of learning</td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Assessment and feedback</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Quality assurance and enhancement</td>
<td></td>
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<tr>
<td>Other</td>
<td></td>
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</table>

5.4 Synthesising and reporting

Most of the review reports do not comment specifically on the processes of synthesis and reporting. The one exception with respect to synthesis is the Influencing thinking and practices review, which, owing to its methodological approach (meta-ethnography), includes a section entitled ‘synthesising data’. However, it is possible to glean considerable information about how the review teams approached this part of the review process from their interview/focus group comments and from the structure and content of their final reports.

A common strategy seen in at least four of the projects was to present some kind of overview of the main characteristics of the available research followed by some form
of more detailed discussion of findings (and methodological issues) by thematic area. The Innovative assessment review has three main findings chapters: one that summarises the main characteristics of the database of relevant research, followed by two that present relevant findings by innovation types and subject areas. In a similar way, the findings sections of the Student learning experience review each have a common three-fold structure that looks at the nature of research literature, the research findings and the implications. A slightly different approach was seen in the Blended e-learning review, where the report structure is driven by the project's five research questions. Each of the findings chapters deals with one of the research questions drawing on the relevant research literature and/or empirical data from institutional visits.

In the Influencing thinking and practices meta-ethnography, synthesis involved "not only comparing data across the studies, but also revisiting metaphors, ideas, concepts and contexts" within the original studies. In practice, this meant: "(i) reading the studies carefully and examining the relationship between them to determine common themes; (ii) synthesising data and discussing this in order to gain second-order interpretations; and (iii) developing third-order interpretations that added something that went beyond the mere comparisons of the findings of all the studies." (p. 30) The outcomes of the second-order (three main themes) and third-order (seven main themes) analyses then provided the means by which the findings of the review were reported.

The approaches to synthesis and reporting seen across the eight Academy reviews seem to concur with practices seen elsewhere. The 28 reviews studied by Boaz et al., for example, all used "some kind of narrative synthesis … organised around themes that emerged from … the literature (most commonly), interviews or empirical work conducted as a preliminary stage of the reviewing process, and the research brief" (2004, p. 15). A similar predominance of thematically structured narrative synthesis is evident in the Academy-funded reviews.

A further important point relating to synthesising and reporting is that issues of research quality can often resurface during these later stages of the review process. In particular, the writing process brings up a whole host of decisions about which studies should feature in what ways, in what level of detail and with what kinds of qualifiers in the findings sections of the final report. This was touched on by one member of the Student learning experience team who explained how:
There were many studies that we didn't like because of quality issues but we kept them in the big data file [i.e. we didn't exclude them] but we didn’t discuss them individually within the substantive sections of the report. Such studies would only be referred to collectively in terms of weaknesses within the field.

Another challenge experienced during the stages of synthesis and reporting concerned how best to bring together the analysis work carried out by different team members. Within the First-year experience review team, for example, one reviewer focused on the published literature, while another focused on the institutional grey literature. While this was helpful with regard to developing in-depth understandings of these respective literatures, “the problem was that when we got to the point of putting it together, we needed more time than we had, because we’d been doing it separately, to put it together it required more than just sticking it together”. This moves us on to questions of team processes and time pressures.

5.5 Team processes and time pressures

Throughout all of the review stages, questions of team processes and time pressures featured frequently. Drawing on the reports and reflections of the review teams, a number of points can be made in relation to each of these issues. The common message underlying all of these is the importance of project leadership in research reviews.

Taking team processes, firstly, it is clear that effective review team working was facilitated by regular interaction and dialogue. Representatives of projects emphasised the value of regular face-to-face meetings for:

— *developing shared understandings* – “The team has got to come together and develop a common understanding of where we're going” (*Innovative assessment*)
— *ensuring consistency* – “All three of us applied the criteria to the same set of studies until we had 90% agreement” (*Postgraduate research student*)
— *deepening the analysis* – “The analytical framework for items eventually included was devised collectively in discussions of the review team. Initial impressions from the first readings were discussed in [team] ’reading meetings’” (*Student learning experience*).
In order for team meetings to really add value to the process, though, it was crucial that they involved real engagement with substantive issues. In the words of one project director, this was about “ensuring that the dialogue went beyond the mechanical” and “making it clear to people that this wasn’t just about coming to meetings, that they’d have to do some graft”. While the use of bibliographic software such as EndNote was helpful to many teams in creating a shared and easily searchable database of their relevant literature, the use of electronic methods of communication proved less helpful than face-to-face contact. This was particularly evident in the Reflective practices review where the intended use of an online collaborative tool for exchanging documents and facilitating discussion did not prove successful with the practitioner reviewers:

It was partly the way people were working because they were often reading papers and making notes, but not filling in the forms. […] It was also a confidence thing [i.e.] not necessarily having the confidence to be upfront and show colleagues ‘This is what I’m doing’.

Another important message concerning team processes is the management of roles and responsibilities. Helpful strategies here included:

— “taking the particular expertise of team members into account” when devising ways to divide up the literature for more detailed reading and reviewing
— ensure that individuals who had read and reviewed a certain part of the literature were then also responsible for writing about this in the final report because once “you immersed yourself, you could see the range, the scope, you had an overview of the kind of research and so on”
— using research officers to aid with project co-ordination, literature searching, scanning and selecting and (if appropriate) more in-depth analysis and report writing
— drawing on specialist expertise from beyond the team to support particular stages of the review such as gaining support with scoping from a well-known researcher in the field or getting methodological advice from a systematic review expert
— recognising the contribution that steering/advisory groups can make with regard to highlighting new sources of literature, commenting on key findings, identifying implications and developing dissemination strategies.
Moving on to time pressures, it has already been shown how the six-month timescale presented challenges for teams at various stages of the review process (see, for example, Sections 4.2.4, 5.2.1 and 5.3.2). In the light of these difficulties, a number of coping strategies can be drawn out from the experiences and reflections of project team members. These concern thinking carefully about:

— how much is done – The need for flexibility was crucial, in particular the extent of searching and depth of analysis being responsive to the nature of the literature.
— what is important – Certain processes were seen as critical despite their time-consuming nature, such as the development of shared understandings of concepts and protocols early on in the project.
— when things are done – The sequencing of tasks was also important, such as identifying which areas of literature can be analysed as soon as the first relevant material is identified and which areas are best left until a considerable amount of material has been located.
— what the end point is – Looking forwards to the likely structure and length of the final report at an early stage in the project was helpful in clarifying priorities and strategies for analysis.

5.6 Summary

The main findings about the ways in which the project teams approached the different stages of the process are summarised below.

Scoping

— The scoping process seems to have been driven by three underlying questions: What is needed? What is meaningful? What is practical?
— Answering these questions was helped by: looking for contrasts with previous reviews/research; using findings from previous research; gaining ideas from focus groups; formulating clear review questions; defining and categorising the substantive topic; and thinking carefully about practicalities.
— Scoping was generally an issue that was revisited during the review process in the light of new knowledge about the nature and scale of the literature.
Searching

— There was variation in the number and range of search methods used by the review teams.
— All used some form of electronic database searches supplemented with other electronic (e.g. web searches) and manual (e.g. hand searches) methods.
— Several teams also reported ways in which they used modified or alternative techniques in order to access specific types of literature or to overcome difficulties.

Selecting

— All teams selected material on the basis of inclusion/exclusion criteria, although the number and specificity of such criteria varied.
— Selection on the basis of relevance and timescale was common to most teams, along with geographical scope and publication type in several cases. Additional criteria included research methodology and publication accessibility.
— With one exception (a ‘best evidence synthesis’), review teams did not select publications on the basis of quality.

Analysing

— Research quality was elaborated and assessed with regard to methodological rigour, internal coherence, validity and reliability, and genre-specific criteria.
— The process of judging quality presented challenges for several review teams owing to the time involved, the expertise required and the complexity of the issues.
— Quality appraisal was part of a wider process of analysis of publications, which tended to involve completion of database/pro forma entries for individual items and (in some cases) the development of analytic maps/grids for the literature as a whole.

Synthesising and reporting

— Most review teams did not articulate a particular approach to synthesis, although a pattern of presenting a general overview of the literature followed by more detailed discussion of the findings by thematic area was common.
— The meta-ethnography review on Influencing thinking and practices adopted a particular approach to synthesis based on interpretative comparison and...
inductive analysis.

— Two challenges that arose during synthesis and reporting concerned deciding which studies should feature more or less prominently in the final report and how the analysis of different bodies of literature and data sources could be brought together most productively.

**Team processes and time pressures**

— Questions of team processes and time pressures featured across all of the review stages.

— Review team working was aided by opportunities for regular face-to-face dialogue, careful allocation of roles and responsibilities within the team and drawing in of specialist expertise from beyond the team.

— The negotiation of time pressures was helped by strategic thinking about how much is done, what is important, when things are done and what the end point is.
6. Conclusions and implications

This final section revisits the study’s key findings and outlines a number of implications for future reviews.

6.1 Discussion of key findings

The literature reviews commissioned by the Academy aimed to identify and make explicit the issues, concepts and evidence associated with particular topics of current significance in higher education. These reviews have been conducted at a time when there is growing recognition of the role of evidence-informed practice within education. However, the nature of what is reported depends, in part, on the methods used to draw and collate that evidence together. This study has therefore given credence to these methods by exploring and contrasting the different methodologies used across the eight projects.

The key message emerging from this comparative study is the complexity of research reviewing as a practice. This has been noted by others who have written about research reviewing in education (Foster & Hammersley, 1998; Torrance & Sebba, 2007) and social sciences (Boaz et al., 2004; 2007). A common conclusion is that “reviewing ‘on the hoof’ tends to be a messier business than any typology [of review approaches] might imply” (Torrance & Sebba, 2007, p. 3). In the present study, complexity was seen in several ways. First, there was complexity in the different approaches used across the eight projects in the sense it was not easy to categorise them as regards consistent patterns of similarities and differences. A second source of complexity was the need for adaptation and tailoring of approaches throughout the review process, even where established review methodologies were being used. Thirdly, there was complexity with regard to the diverse nature of the higher education literature (in terms of origins, destinations and genres) and the variable nature of the literature for the specific review topics. Finally, there was an underlying complexity associated with the fact that review teams were reviewing research on issues within their own professional realm, that is higher education. Foster and Hammersley (1998, p. 611) point out that “educational researchers also play practitioner roles (for example, in teacher education), so that the reviews that they produce are shaped by factors both internal and external to educational enquiry”. This insider/outsider dynamic arguably represented another source of complexity within the eight Academy-funded review projects.
In addition to these points about complexity, there are several other findings from this study that connect with previous investigations into research reviewing. There is evidence among the reviews in this study, for example, of both “a desire to undertake reviews in a more systematic manner” (Boaz et al., 2004, p. 19) and clear signs of deep-seated concerns about the applicability of systematic review models to research in education and higher education. There are also clear signs of the multiple forms of expertise involved in reviewing, which, as others have argued, go well beyond familiarity with a field of research and include “methodological awareness, work planning, team work, project planning and communication skills” (Boaz et al., 2007, p. 17). Similarly, the importance of scoping as a recurring issue during the review process is another finding that echoes what others have said about “question definition” (Boaz et al., 2007, p. 12), “defining the boundaries of the literature” (Kennedy, 2007, p. 139) and reviewers’ “factual and value assumptions” (Foster & Hammersley, 1998, p. 617).

Another theme in common with previous studies is the challenging nature of quality appraisal within the review process and the way in which this has tended to be dealt with in more inductive ways as part of the analysis, synthesis and reporting stages rather than through the application of explicit quality criteria during the selection of included studies (cf. Foster & Hammersley, 1998; Boaz et al., 2004, 2007). Two further connections with other writing about reviewing are: the predominance of narrative-style synthesis, that is “tracing themes emerging in the research reviewed” (Boaz et al., 2004, p. 14) as distinct from other modes of synthesis; and the importance of reviewers’ prior knowledge of the field in making progress under tight timescales, but the need for this “to be balanced against the possibility of bias and the entrenchment of expert opinion” (Torrance & Sebba, 2007, p. 3).

As well as connections with previous studies, there are also some new ideas that have emerged from this comparative study. One area of learning concerns the multiple factors (the literature, the topic, prior methodological perspectives, conditions set by the commissioning body, reviewers’ expertise and anticipated audiences/outputs) that can influence the kinds of approaches that are used by review teams. Another is the significant role of project leadership in facilitating review team processes through ensuring opportunities for regular face-to-face dialogue, careful allocation of roles and responsibilities within the team and drawing in of specialist expertise from beyond the team. This study has also generated grounded examples of strategies that have been helpful in scoping (e.g. thinking carefully about what is needed, what is meaningful
and what is practical) and managing time pressures (e.g. thinking carefully about how much is done, what is important, when things are done and what the end point is). In addition, this study has provided insights into the adaptation of established review methodologies (e.g. best evidence synthesis, systematic review, meta-ethnography) and the development of new review methodologies (e.g. grounded practitioner review) in the context of reviewing research in higher education.

Finally, this study has highlighted the fact that there is much to learn from reflective accounts, and comparative studies, of review practices. Foster and Hammersley (1998, p. 624) argued that “reflexivity ought to be extended to include reviews [as well as other research texts]” and Torrance and Sebba (2007, p. 3) called for “self-conscious reflexivity on the part of reviewers and review groups”. This study supports such arguments by demonstrating the richness of the learning (with regard to resources to use, strategies to try, issues to be aware of, tensions to negotiate and so on) that can emerge from reflexive accounts of review processes.

6.2 Implications for future reviews

Potential implications can be identified for those undertaking and for those commissioning review projects.

Undertaking reviews

1. All research reviews should be seen as an opportunity not only for substantive learning about the review topic, but also for methodological learning about the review process. For those undertaking reviews, there is much to be gained from engaging with and contributing to the emerging literature on research reviewing practices.

2. It is critical to recognise that review methodologies (including established approaches) need to be adapted and developed for the specific features of individual review projects. This study suggests that it is helpful to consider: the nature of the literature; the nature of the topic, reviewers’ prior methodological perspectives; conditions set by the commissioning body; reviewers’ expertise; and the project’s anticipated audiences/outputs.
3. The significant role of project leadership in research reviews needs greater emphasis. Particular challenges in this area are ensuring that team interactions focus on the conceptual as well as the practical, that team roles and responsibilities make best use of individuals' areas of expertise, and that time pressures are negotiated strategically with regard to how much is done, what is important, when things are done and what the end point is.

4. The accounts of the review teams in this study as well those in the wider literature suggest that education/social science review teams can experience challenges with: clarifying the focus and scope (scoping); analysing and appraising the included literature (analysis); and drawing together the data/findings from the analysis of included studies (synthesising). Another recurring issue is balancing the amount of time spent searching and selecting with the amount of time spent appraising and synthesising.

5. In formulating the make-up of review teams, it is important to think broadly with regard to several different kinds of expertise; in particular, experience with certain review methodologies, prior knowledge of relevant topics/literatures, specialist information skills and review project leadership experience. The balance of insider/outsider and researcher/research user perspectives within teams can also be important.

Commissioning reviews

1. Organisations commissioning reviews need to recognise the important role that they can play in helping to develop methodological capacity and understanding in relation to research reviewing. Review teams should be supported to generate and disseminate reflexive accounts of different kinds of reviews. Where more than one review is funded at a time, it can be beneficial to bring review teams together during the process to compare and contrast approaches and experiences.

2. It is important to support the adaptation and development of review methodologies in relation to the specific features of individual review projects. Calls for proposals need to make clear whether a particular kind of review, purpose, scope and/or intended audience is required. Review teams should be encouraged to make clear the rationale for their adopted approach in terms of factors such as the literature, the topic, prior methodological perspectives, commissioning conditions, reviewers’ expertise and anticipated audiences/outputs.
3. In selecting review teams, experience of and approach to review project leadership ought to be one of the criteria for selection or points for discussion. The facilitation of team processes, allocation of roles and responsibilities and negotiation of time pressures are all examples of the contribution that effective leadership can make.

4. Funders of education/social science reviews should pay particular attention to the ways in which review teams deal with challenges associated with: clarifying the focus and scope (scoping); analysing and appraising the included literature (analysis); and drawing together the data/findings from the analysis of included studies (synthesising).

5. Commissioning decisions ought to take careful account of the mix of expertise within review teams, including methodological as well as substantive expertise, information as well as leadership skills and insider as well as outsider perspectives.

6. It is important that funders allocate sufficient time for the production of final reports and ensure that teams are informed in advance of what will be required of them in this process. It is also important to consider requesting and making available bibliographic databases and other review outputs (e.g. tailored briefings) in addition to final reports to support sector learning.
References


Appendix 1: Invitation to tender

Background to the reviews

1. The Higher Education Academy’s mission is to help institutions, discipline groups and all staff to provide the best possible learning experience for all their students. One aspect of this work is to lead the development of research and evaluation to improve the quality of the student learning experience, including synthesising and disseminating relevant information from research, evaluation and other sources.

2. To address this objective, we are commissioning a small number of literature reviews in circumscribed areas. The purpose of the literature reviews is to identify and make explicit the issues, concepts and evidence associated with the topic in question rather than to address directly specific questions of practice or policy. The intention is that the reviews should help practitioners, policy makers and researchers to focus more effectively on relevant questions, issues or sources of evidence to inform their own research or practice.

3. In addition, we are concerned to explore different methodologies for undertaking literature reviews. In some circumstances, a detailed systematic approach might be appropriate, in other cases a more descriptive approach might serve the required purposes. We therefore intend to bring together the teams commissioned to undertake the various reviews in order to explore the pros and cons associated with alternative reviewing methodologies. This will inform the Higher Education Academy’s approach to reviews in the future.

4. Individuals or groups are invited to submit tenders to conduct one or more of the literature reviews as described below. Tenders should be received by 31 May 2006.

Purpose of the reviews

5. The reviews are intended to provide the basis for enabling practitioners, policy makers and researchers to adopt more effective evidence-informed or research-informed approaches to their decision-making, research and practice on matters
relating to the quality of the student learning experience. We anticipate them being used by managers, policy makers, lecturers, researchers and other practitioners.

6. In addition, reflections on conducting the reviews will constitute evidence to inform the Academy on methodologies to be used in future review exercises.

Review topics

7. Review topics are initially defined broadly, and part of the review process may be to modify the scope or focus of the review topic in view of initial consideration of relevant literature.

8. We intend to fund four literature reviews, one from each of the four topics listed below:

— **The student learning experience.** The review is intended to make explicit the issues and concepts relevant to the student learning experience in higher education. This could include: how the student learning experience can be defined; enabling and inhibiting factors that impact on the student learning experience; a typology of policies and practices to enhance the student learning experience; assessment of impact of interventions; recommendations for future policy and practice. We envisage that this will focus primarily on UK HE literature, but may draw on international comparative material.

— **Learning spaces for the 21st century.** The review is intended to inform the design of learning spaces for the future, to facilitate changing pedagogical practices to support a mass higher education system and greater student diversity. This could include the implications for learning space of changing student demands, new pedagogies and technological advances; a review of the design of learning spaces in other sectors (e.g. compulsory education) and other countries; identification of key criteria to inform the design of learning spaces in the future. This review is likely to include literature from outside of the HE sector and international literature.

— **Innovative assessment across the disciplines.** The review is intended to support the use of a wider range of assessment practices within disciplines and a
greater understanding and parity between discipline areas. This could include mapping the range of methods used across disciplines; identification of different assessment practices across discipline areas; evidence for innovative assessment methods (e.g. the application of approaches from outside the discipline area). We envisage that this is likely to include generic and discipline specific higher education assessment literature from the UK as well as grey literature on assessment from the Higher Education Academy subject centres.

Influencing thinking and practices about teaching and learning in higher education.
The field of higher educational development devotes significant resources to the compilation and dissemination of “best” or “good” practice studies and guides. This review will examine alternative ways in which the Higher Education Academy can share research-informed information and knowledge to help influence practice and thinking in the sector. This could include: exploring theories of knowledge transfer and dissemination; the attributes of successful networks and communities of practice; the role of different communities of practice across disciplinary areas and higher education institutions; the role of educational developers and of education departments; questions of discourse and language; the role of thematic information and research in the sector; a critique of the value and effectiveness of notions of ‘best’, ‘good’ and ‘innovative’ practice; identifying the range of dissemination strategies that are available in the HE sector; investigating strategies for avoiding information overload and identifying relevant information; assessing the suitability of alternative dissemination approaches; and making recommendations for the higher education sector. We envisage that this would include research evidence from the public and private sectors, and international literature.

The review process

9. The review should be conducted by a core team advised by a small steering group which should include representation from the Academy.
The review outcomes

10. Each review should include the following outputs:

i. A database of literature which is relevant to the review topic and which can be made available by the Academy to the sector as a searchable resource to facilitate the identification of literature by researchers and practitioners in the future.

ii. A research report, to contain an executive summary; outline of methodological approach; identification, selection and analysis of the literature; conceptual perspectives; findings; conclusions, implications and recommendations; references (see Appendix A).

iii. The presentation of a paper at the Higher Education Academy Annual Conference in July 2007, or participation in a similar dissemination event.

Successful tenderers will be expected to attend two one-day meetings at the Academy’s offices in York, one in September and one in April following submission of final reports. The purpose of these meetings will be to share, co-ordinate and explore issues relating to the review methodologies. Travel and subsistence costs associated with these meetings will be provided by the Academy and therefore should not be included in tender budgets.

Tender requirements and timetable

11. Tenders must include the following information:

— A statement of the review area which the tender addresses.
— A statement of the review objectives, outcomes and key associated issues.
— A statement of the scope of material to be included.
— A description of the methodology to be adopted for achieving the objectives. This should include the overall approach and procedures for ensuring the quality of the work undertaken.
— Track record and expertise in relation to the topic area and literature reviewing. Include names and brief CVs (evidencing track record/expertise) of staff who will make a significant input to the work.
— Relevant general expertise of the hosting organisation, including relationship of the review to relevant concurrent work and how the review work will
contribute to building research capacity within the organisation.

— A detailed timetable of the work to be conducted.
— A preliminary list of members of the steering group.
— Budget. Up to £30,000 (inclusive) is available for each review. Costings should be broken down to indicate staff costs, travel and subsistence, overheads and other costs.

12. The timetable for the tendering process is as follows:

— 31 May: deadline for receipt of tenders
— 1 June – 23 June: peer review of tenders
— Week commencing 26 June: interview of research teams (if required)
— Week commencing 3 July: teams informed of outcome; contracts issued
— Literature reviews can start any time after contracts have been issued, and no later than 1 September 2006
— September 2006: initial meeting of review teams
— 31 March 2007: deadline for reviews to be completed
— April 2007: final meeting of review teams
— July 2007: Academy Annual Conference

Selection criteria and process

13. In evaluating the tenders, the Academy will pay particular attention to the following criteria (not listed in order of priority):

Essential

— Relevant experience and qualifications in relation to the topic area and literature reviewing
— An understanding of the conceptual issues relating to the review topic
— An understanding of the Academy’s needs in relation to the literature review scheme and the review topic
— Appropriateness of the proposed methods for undertaking the review
— Ability to complete a high quality review within the specified timetable
— Value for money.
Desirable

— Synergy with related work in the hosting organisation
— Opportunities for capacity-building resulting from the work.

14. Selection of successful bids will be based on the above criteria. Interviews may be required if further information or discussion is deemed necessary.

Submission of tenders

15. There is no application form for tenders, which should be written as clearly and succinctly as possible to include the information requested above, outlined under number 11. The length of the proposal must not exceed 2000 words, excluding CVs of staff associated with the review. Please provide full contact information.

16. Please send an electronic copy of the tender to Cristina Sin at the following address, to arrive by 5pm on 31 May 2006.

The Higher Education Academy, Innovation Way, York Science Park, Heslington, York YO10 5BR, UK

Email: cristina.sin@heacademy.ac.uk

Further details

17. Please address enquiries concerning the tendering process to Cristina Sin at the above address (tel: 01904 717570), and enquiries concerning the reviews to Dr Liz Thomas (liz.thomas@heacademy.ac.uk, 01904 717500) or Dr Helen May (helen.may@heacademy.ac.uk, 01904 717500).
The Higher Education Academy

The Higher Education Academy supports the sector in providing the best possible learning experience for all students. It does this by:

— providing national leadership in developing and disseminating evidence-informed practice about enhancing the student learning experience
— operating as an independent broker, enabling expertise to be shared across institutions and subject areas
— working at multiple levels, with individual academics, subject communities, departments, faculties and institutions
— working across all parts of the UK, recognising the distinctive policy contexts and priorities of the devolved administrations but also providing opportunities to share expertise among them.

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