

# **What are the effects of the roles of mentors or inductors using induction programmes for newly qualified teachers (NQTs) on their professional practice, with special reference to teacher performance, professional learning and retention rates?**

Review conducted by the NQT Induction Review Group

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Explains the purpose of the review and the main messages from the research evidence

**TECHNICAL REPORT**

Includes the background, main findings, and full technical details of the review

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## List of abbreviations

|             |   |
|-------------|---|
| AACTE       | American Association of Colleges for Teacher Education                |
| AEI         | Australian Education Index  |
| AERA        | American Educational Research Association                             |
| APEC        | Asia-Pacific Economic Co-operation                                    |
| ASSIA       | Applied Social Sciences Index and Abstracts                           |
| BERA        | British Educational Research Association                              |
| BT          | Beginning teacher   |
| BTSA        | Beginning teacher support and assessment                              |
| BTSP        | Beginning teacher support program                                     |
| CEP         | Career entry profile  |
| CERUK       | Current Educational Research in the United Kingdom                    |
| CPD         | Continual professional development                                    |
| CSPAC       | (Montana) Certification Standards and Practices Advisory Council      |
| DfES        | Department for Education and Skills                                   |
| EPD         | Early professional development  |
| EPPI-Centre | Evidence for Policy and Practice Information and Co-ordinating Centre |
| ERIC        | Educational Resources Information Centre                              |
| ESL         | English as a second language  |
| ESRI        | Education and Social Research Institute                               |
| EST         | Experienced support teacher   |
| FE          | Further education   |
| FYT         | First-year teacher  |
| GTC         | General Teaching Council  |
| HE          | Higher education  |
| HMI         | Her Majesty's Inspectorate  |
| ICET        | International Council on Education for Teaching                       |
| IOE         | Institute of Education  |
| IPDP        | Individual professional development plan                              |
| ITT         | Initial teacher training  |
| LEA         | Local education authority   |
| MMU         | Manchester Metropolitan University                                    |
| MTIP        | Mentor Teacher Internship Program                                     |
| NCSL        | National College for School Leadership                                |
| NERF        | National Education Research Forum                                     |
| NFER        | National Foundation for Educational Research                          |
| NORTI       | Network of Researchers on Teacher Induction                           |
| NQT         | Newly qualified teacher   |
| NT          | New Teacher   |
| NYC         | New York City   |
| OERA        | Office of Education Reform Audit                                      |
| OFSTED      | Office for Standards in Education                                     |
| QTS         | Qualified teacher status  |
| SSRU        | Social Science Research Unit  |
| TDA         | Training and Development Agency for Schools                           |
| TEP         | Teacher effectiveness project   |
| TTA         | Teacher Training Agency   |
| UCET        | University Council for the Education of Teachers                      |
| WoE         | Weight of evidence  |

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# Abstract

## What do we want to know?

There was a need to assess the research on the induction of newly qualified teachers, associated programmes and mentoring support in the light of the statutory arrangements for the induction of newly qualified teachers (NQTs) set up in May 1999.

## Who wants to know?

The review will be of use to all those involved in the training and recruitment of new teachers.

## What did we find?

The review focused upon the performance, professional learning, and retention of NQTs.

### *Teacher performance*

- Three out of six relevant studies show evidence of the positive impact induction can have on teacher performance.
- Studies provided evidence that induction helps NQTs address issues of student motivation and assessment.
- NQT performance was enhanced beyond expectations as the result of induction programmes.

### *Professional learning*

- Six studies addressed the issue of professional learning, providing evidence that induction was welcomed and valued by NQTs, especially where it provides emotional support.
- Three of the six studies noted the importance of allowing adequate time for successful induction experiences to occur, and that this is not always afforded.

- Five of the six studies reported that professional learning was enhanced where serious consideration had been given to matching NQTs with appropriate induction tutors.

### *Retention rates*

- Three of the six studies addressed the issue of NQT attrition/retention rates, showing a positive correlation between NQT retention and induction experiences.
- One study reported a dramatic difference between retention rates of a sample of NQTs who had undertaken an induction programme and a control group over three years.

## What are the implications?

NQT induction must be appropriately supported, by regular meetings between NQTs and induction tutors, through the provision of adequate contact time between both parties, and serious consideration given to the appropriate matching of NQTs with induction tutors, in terms of teaching specialism and teaching age phase/grade. If this support is given, NQT induction can have a positive impact upon the performance, professional learning and retention of NQTs in the teaching profession.

## How did we get these results?

The review question was:

*What are the effects of the roles of mentors or inductors using induction programmes for newly qualified teachers (NQTs) on their professional practice, with special reference to teacher performance, professional learning and retention rates?*

The review mapped the characteristics of 75 studies. Ten were selected for in-depth review, with six eventually being used in the synthesis, according

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to suitability and reliability. The studies were all available in English and have all been in the public domain since 1988.

### **Where to find further information**

The full title of the report is: Totterdell M, Woodroffe L, Bubb S, Daly C, Smart T and Arrowsmith, J (2005) What are the effects of the roles of mentors or inductors using induction programmes for newly qualified teachers (NQTs) on their professional practice, with special reference to teacher performance, professional learning and retention rates? In: *Research Evidence in Education Library*. London: EPPI-Centre, Social Science Research Unit, Institute of Education.

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# Summary

## Background

The rationale for this review was derived from the need to assess the research on the induction of newly qualified teachers, associated programmes and mentoring support in the light of the statutory arrangements for the induction of newly qualified teachers in May 1999. In order to understand this better, a review was undertaken that described what is known about this topic and synthesised findings of sound evidence from relevant studies. This will inform users about teacher induction and decisions about future research in this area.

## Aims

The aims of this systematic review are as follows:

- to create a map of the empirical research on the effects of induction that has been undertaken in the early years, primary and secondary (including sixth-form) phases of education
- to inform decisions on what future research might usefully examine
- to synthesize the known evidence for the effects of the roles of mentors or inductors using induction programmes for Newly Qualified Teacher (NQT) induction, on their professional practice, with special reference to their teacher performance, learning and retention rates

## Review questions

The original review question was as follows:

*What are the effects of induction on newly qualified teachers (NQTs) in relation to their professional practice?*

This was refined to the following:

*What are the effects of the roles of mentors or inductors using induction programmes for newly qualified teachers (NQTs) on their professional practice, with special reference to teacher performance, professional learning and retention rates?*

## Methods

This review was undertaken using standard EPPI-Centre methods, procedures and tools (such as EPPI-Reviewer to analyse and interrogate reports). User involvement was sought from the Advisory Group and other sources at key junctures, such as defining terms of reference, and identifying the most important focus of the review. User perspectives were gained from local education authorities induction co-ordinators, school head teachers, induction tutors and mentors, and other experts in the field.

The search strategy for the review involved rigorous searching of key electronic databases and relevant journals (some by hand) for which titles and abstracts were screened for relevance to the review question, as defined by the inclusion criteria. Citations uncovered by the search strategies were stored on EndNote, and titles and abstracts were screened against the criteria. Full texts of those that appeared to meet the inclusion criteria were obtained for further screening. All that met this final stage of screening were then keyworded, according to EPPI-Centre standards and included in the systematic map. Quality assurance in both selection and keywording of studies was ensured by double coding, where a sample of studies was scrutinised by two members of the Review Group, and the results overlooked by a third person. Any discrepancies or inconsistencies were discussed and rectified accordingly. The keywording process also involved two EPPI-Centre personnel.

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Following the production of the systematic map (which described the key characteristics of the studies) and involvement from the Advisory Group, it was decided that the in-depth review should include studies keyworded as focusing on teacher retention, performance or learning, and that the population focus should be inductor or mentor. Studies selected for the in-depth review were then rigorously analysed, subjected to weight of evidence judgements that reflected the overall suitability, and then used accordingly in the synthesis; the results subsequently informed the conclusions.

## Results

Initial searches of electronic databases revealed 3,827 reports while other methods (e.g. hand searching journals) uncovered 36 for potential inclusion. Thirty of the 36 were immediately discounted as part of a one-stage screening process. Titles and abstracts of the citations found by electronic means were then screened against the inclusion criteria. A total of 3,589 were excluded: 1,008 for not being 'on-topic' (exclusion criterion 2); 1993 were not of the appropriate study design (exclusion criterion 3); 52 for not focusing on the appropriate educational setting; and 536 for being duplicate references. Following further exclusions of duplicate reports (N=20) and a small number of reports that proved to be unobtainable (N=8), the full texts of 216 reports (of 209 studies) were screened against the inclusion criteria. Of these, 75 were deemed suitable for inclusion in the systematic map.

The systematic map revealed the following:

- The majority of studies were either explorations of relationships (N=35) or naturally occurring evaluations (N=36).
- Most of the reports were from the USA (N=56), the UK (n=8) or Australia (N=4).
- The study focus of most of the reports was teaching and learning (N=60), with significant minorities also dealing with teacher careers (N=17) and classroom management (N=15).
- The vast majority of reports focused on teaching staff (N=73) and had a specific population focus on inductees (N=74).
- Most reports reported studies that had been carried out in primary (N=64) or secondary (N=57) schools.

For the in-depth review, only those studies keyworded as focusing on teacher retention, performance or learning, and the population focus as inductor or mentor, were included. The ten studies meeting the criteria used in the in-depth review comprised one evaluation of researcher manipulated interventions, one exploration of relationships study and eight evaluations of naturally

occurring interventions. They were all produced in English and published, or found to be in the public domain. Two of the studies are from the UK and the other eight are from the USA.

Six of the studies were given medium or higher weight of evidence D (an aggregate of relevance, appropriate study design and reliability vis-à-vis this review). Three of these studies note the problem of NQT attrition rates during or after the first year of teaching, and provide compelling evidence to show the positive relationship between NQT induction and NQT retention. These studies provide cumulative evidence to show that induction has a positive effect on teacher performance, professional learning and retention of NQTs when accompanied by the regular meetings between NQTs and induction tutors, adequate time for both NQTs and induction tutors for induction tutoring, and appropriate matching of NQT and tutor in terms of subject specialism and teaching age phase/grade. There is an implication of some correlation between the quality and appropriateness of teacher induction and new teacher morale in terms of the multiplicity of factors that impact on teacher self-efficacy and professional commitment.

## Conclusions

### *Implications for policy*

- Provision of NQT induction is not uniform. Variation in provision also raises important questions and issues that need to be addressed. Ideas and best practice need to be disseminated and programmes based on the latest available research evidence.
- Concepts of mentoring, the development of inductor roles and their practice in support of NQTs also vary, often reflecting notions of how new teachers can be supported in their professional development that draws to varying degrees on diverse sources. Rarely do programmes spawn specific notions of the role of mentor or inductor, but where they do, evaluation of the programme usually builds this specificity into the criteria by which its success is measured or established.
- On the whole, policy implementation in the area of induction usually draws eclectically on established sources. There is little evidence of hypothesis testing, programmatic innovation or policy renewal in the light of feedback.
- NQTs' need for more release time, monitoring and support is well documented in the research but not always translated into policy and practice.
- Policy-makers do not engage enough with matters deemed central to the success of a mentoring scheme - such as the amount of free time afforded to the NQT, matching of mentors, etc. - leaving such particulars to practitioners.



- Leadership at policy level is needed so that provision is properly costed, and also to ensure that the decisions are faced up to with regard to pulling highly experienced teachers from classroom teaching in order to facilitate high levels of classroom expertise on behalf of their new colleagues. A persuasive case needs to be made to stakeholders that this is being done in the longer-term interest of establishing a quality teaching base that will positively impact on students' learning.
- The research reviewed provides evidence-based ethical permission - if not full support - for policy-makers to hypothesise that it is likely that the import of these policy strands holds true the more so in the circumstances of challenging hard-to-staff schools. Policy advisors would do well to consider whether prioritising resources in support of schools that serve children from historically underserved communities and yet simultaneously often attract NQTs from underrepresented ones, should be considered, should some verification be forthcoming.

#### *Implications for practice*

- This review reinforces the conclusions of the pilot study (Totterdell et al., 2004), in particular the need for NQTs to be afforded more release time, monitoring and support in their first year.
- Effective mentors are critically important to the success of NQTs in their induction year, and contact with the mentor is most useful at the start of the school day.
- Research stresses the importance of personal interaction between experienced and beginning teachers; allied to this is the importance of proper evaluations of the NQTs' professional practice, and the way in which this should be constructive and not merely critical.
- Quality induction has been linked to increased satisfaction, which in turn encourages retention of NQTs. The induction process should therefore ensure that NQTs are equipped to engage constructively with all whom they may encounter, and prepare them for their roles as leaders of learning.

#### *Implications for research*

- As suggested in the pilot review (Totterdell et al., 2004), randomised controlled trials/evaluations are needed to allow new initiatives to be comprehensively analysed and evaluated. The USA Department of Education has recently embarked on such a study, which is a welcome development in the field.
- Additional research is still needed into the induction of new teachers in early years settings, and into the induction and retention of black and

minority ethnic teachers.

- Research that seeks to establish the relationship between the efficacy of mentoring interventions and the level of preparation afforded to the mentor is needed, and is currently underway in the USA.
- The relationship between induction and retention is an issue clearly in need of more scrutiny.
- Further research synthesis is needed on all literature relating to induction, early professional development and retention. However, as opposed to simply engaging in further systematic reviews, it may be of more interest and utility to combine such an effort with a survey of research data held by local authorities, government agencies and induction programme co-ordinators.

#### *Strengths of this review*

- The research reveals the current state of induction studies to date.
- It highlights that NQT induction practices of the early 21st century are showing similar inadequacies to those of 10 or 20 years ago.
- It indicates that there are some common factors involved in the successful induction of new teachers.
- The search identified relevant research published in English, whether or not it originated in non-English speaking countries, and the bibliographic information on these is extensive.
- The search found that even reports of research carried out more than 10 years of age can be relevant to the current research agenda.
- The research highlighted the need for more reliable and testable research in this area.
- As the co-author of one study (which was included in the synthesis) is also the author of this review, there is a derivative strength in terms of expertise and in-depth knowledge of the research and the issues involved in the review topic.

#### *Limitations of this review*

- The scope was inevitably limited by time and funding constraints.
- There is a lack of thorough, valid, recent and reliable research on the effects of NQT induction in relation to the in-depth criteria selected.
- The difficulty remains in locating more extensive research links between NQT induction and not only NQT learning but also its effects on NQT retention.
- There is difficulty in locating research links

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between NQT induction and not only NQT learning but also its effects on student/pupil learning outcomes.

- The evidence on which it bases its synthesis does not allow it to be conclusive in the strict empirical or logical sense since most of the research reviewed is non-controlled.
- As the co-author of one study (which was included in the synthesis) is also the author of this review, there is a potential weakness in terms of his having a prior view about the nature of induction and the causal relationship that may obtain between it, NQT professional learning and performance, and their impact on pupil and student outcomes.

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## CHAPTER ONE

# Background

### 1.1 Aims and rationale for current review

The availability of qualified and effective teachers is critical to the education of each generation of young people. Increasingly research supports common sense in identifying teachers as the most important contributor to improved student outcomes (see section 1.4). Induction programmes designed to support the professional development of new teachers by enhancing their curriculum repertoire, increasing their pedagogical knowledge and classroom management skills and improving retention by integrating them more effectively into both the school community and world of professional educators, have the potential to address issues of teacher quality and retention, and make a significant impact on student achievement.

Therefore, the purposes of the review were as follows:

- to create a map of the empirical research on the effects of induction that has been undertaken in the early years, primary and secondary (including sixth-form) phases of education
- to inform decisions on what future research might usefully examine
- to synthesise the known evidence for the effects of the roles of mentors or inductors using induction programmes for newly qualified teacher (NQT) induction, on their professional practice, with special reference to their teacher performance, learning and retention rates.

The rationale for this exercise was derived from the need to assess the research of the induction of NQT, associated programmes and mentoring support in the light of the statutory arrangements for the induction of NQT in May 1999. In order to understand this better, a review was undertaken that described what is known about this topic and synthesised findings

of sound evidence from relevant studies. This will inform users about teacher induction and decisions about future research in this area.

The overall approach adopted accords with the growing recognition in England of the need for systematic and cumulative evidence from a range of studies to inform policy and practice so as to increase the potential for using research evidence in policy and practice (Sebba, 2003). Since governments have needed 'evidence-based' or 'evidence-informed' decision-making (Davies et al., 1999; Levacic and Glatter, 2001), systematic reviews are now a key decision-making tool in many areas of evidence-based policy and practice.

### 1.2 Definitional and conceptual issues

The following definitions were developed to ensure conceptual clarity:

- What is meant by newly qualified teachers (NQTs) and which other terms can be used to describe NQTs?

NQTs are defined as people in their first year of teaching after qualifying. Terms found in literature from non-UK countries include 'beginning teachers' and 'novice teachers'.

- What is understood by the term 'induction'?

Induction is a specific stage or phase in teacher development. The first year of any job is a time of intense learning and anxiety, with experiences different to what has come before, and what will follow after. For teachers, the first year of teaching after qualification involves the socialisation into teaching as a profession and into the specific school setting. Induction can be a formal programme for new teachers, organised by the school or local education authority. It is also an assessment point, a hurdle that must be crossed: if new teachers in

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England do not meet the induction standards, they are not allowed to teach in a state-maintained school.

A variety of models of induction programmes exist. For example, there are programmes which are based upon 'effective teaching' criteria relating to direct instruction for mastering skills and academic content as measured by students' achievement on standardised tests. Other programmes underscore the complexities of teaching and the need for dynamic, regenerative school environments that rely on a broad base of knowledge to inform teachers' behaviour' (cited in Weiss and Weiss, 1999, p 3). Another view describes the 'constructivist' approaches that expect teachers to practice reflective and collaborative action, which engender a wide repertoire of techniques to respond to student needs (Sclan and Darling-Hammond, 1992, cited in Weiss and Weiss, 1999, p 3). Funding arrangements vary too, and programmes examined in this review can include those that are centrally or privately funded.

- What is meant by 'professional practice'?

In general use, a practice is a dense cluster of ideas and activities that are related to a specific social goal and shared by a social group or community over time. In this review, professional (educational) practice is understood as a pattern of cooperative human activity in and through which working and learning together take shape over time in response to what is understood, from attending to objects of inquiry, relevant experience, conversations and reflection on learning, and the knowledge and skills that shape, infuse, and arise from these activities. Professional practice for the teaching profession is therefore defined broadly in terms of professional capacity and related teacher performance. Developments in early professional practice suggest links between induction and progressive improvements in the areas listed above as teacher learning, teacher expertise, classroom management, teacher motivation and morale or teacher retention.

- What is meant by 'teacher learning' and 'teacher expertise'?

These will be reported as any significant enhancement of NQTs' professional knowledge, skills and understanding, capacity to collaborate with other professionals, para-professionals or parents/guardians in effecting teaching and learning, improvements in classroom management, newly qualified teacher organisation, rapport with pupils, lesson planning and delivery, increased learning by pupils and the new teacher(s), a positive attitude and morale in the school culture.

- What is meant by 'effects'?

Effects are regarded as an outcome brought about by a cause or agent, in this case, induction.

- What are these effects?

Effects will include changes and improvements made and noted before, during and after evaluations of the professional learning and performance of teachers during their first year. These will be reported as improvements in expertise (including NQTs' professional knowledge and skills base), classroom management, teacher organisation, rapport with pupils, lesson planning and delivery, increased learning by pupils and the new teacher(s), a positive attitude, morale or a notable improvement in the retention levels of new teachers.

- Which words describe the effects of induction?

Words which could describe the positive effects of induction include 'more effective mentoring, supporting and sustaining new teachers (in challenging hard-to-staff schools)', 'incremental improvements in NQTs' professional knowledge, skills and understanding', 'improvements in NQTs' classroom management', 'teacher effectiveness', 'teacher organisation', 'rapport with pupils', 'competent lesson planning and delivery', 'increased learning by pupils related to the professional learning and development of new teacher(s)', 'enhanced professional collaboration in effecting teaching and learning', 'a positive attitude together with good morale and motivation' and 'improvement in the retention levels' of new teachers. However, if induction is only partly completed or implemented inadequately, NQTs may not necessarily benefit from their induction period.

### 1.3 Policy and practice background

There is currently much interest by policy-makers and professional educationalists in the value and impact of induction schemes for new teachers, especially their ability to contribute to raising standards and improve teacher retention rates (Organisation for Economic Cooperation and Development, 2005). As Villani (2002, p ix) observes: 'The idea that beginning teachers require a structured system to support their entry into the profession has moved from the fringes of the policy landscape to the center. It is now generally recognised as a critical component of a comprehensive approach to teacher development'. In America (Scott, 2001; Shields et al., 2001; Youngs, 2002), Scotland (Draper, Christie & O'Brien, 2004; McNally, 2002), Northern Ireland (Moran et al., 1999) and England (Totterdell et al., 2002a), induction related to specified new standards of performance which are expected of new entrants to the profession has become the norm, leading to a growing consensus about what teachers should learn, know and be able to do in order to be regarded as accomplished (Darling-Hammond and Bransford, 2005). Associated with this, new models of early professional development are emerging (Ofsted, 2003; Rogers and Babinski, 2002; and see further [www.nfer.ac.uk](http://www.nfer.ac.uk)). As a consequence, induction and

associated practices of supporting and sustaining new teachers have begun to feature prominently in the research literature (see, for example, Beijaard and Papanou, 2002) and have become more of a focus of attention at annual conferences of teacher education associations, such as the University Council for the Education of Teachers (UCET), International Council on Education for Teaching (ICET) and the American Association of Colleges for Teacher Education (AACTE), as well as at annual research conferences, such as those convened by British Educational Research Association (BERA) and American Educational Research Association (AERA). Induction has additionally generated its own bi-annual research conference under the auspices of the New Teacher Centre, Santa Cruz, California.

England is one notable area for these trends. Induction was introduced in September 1999 and must be served by all newly qualified teachers (NQTs) who obtained qualified teacher status after 7 May 1999 and wish to be employed in maintained and non-maintained special schools. It aims to allow NQTs to build on their initial teacher training, where strengths and development needs will have been identified, and to set the pace and direction for their professional development. It also aims to ensure that all new entrants to the teaching profession reach a uniformly high standard and are ready for the challenges they will face in the classroom.

A report produced by the Institute of Education, University of London (Totterdell et al., 2002a) on behalf of the Department for Education and Skills (DfES), involved surveys of NQTs undergoing induction in 1999-2000 and 2000-2001. The key findings and subsequent follow-up action by DfES can be summarised in three points. First, funding for statutory induction programmes for teachers entering the profession had been available to schools since 1999. In addition, a set of statutory induction arrangements, supported by comprehensive guidelines (Teacher Training Agency, 1999) were found to have helped school managers in the introduction and socialisation of NQTs into their schools in a way that is congruent with a focus on performance management. Second, the evaluation found there was overwhelming agreement among head teachers and induction tutors that statutory induction was helping NQTs to be more effective teachers. The introduction of statutory induction had improved the quality of provision for NQTs and helped raise standards. Third, it was acknowledged that, there is, however, still more work to be done to further improve induction. In particular, the DfES needed to ensure that all NQTs received their entitlement to a reduced timetable (reduced by 10 per cent).

The DfES has since worked with the TDA (Training and Development Agency for Schools, previously Teacher Training Agency, TTA) to consult on revised Induction Standards and the Career Entry Profile (CEP), now called the Career Entry Development

Profile. The Department has also worked with the TDA on clarifying and consolidating the Induction Guidance. Subsequently, new revised documentation has been issued by the TTA (Teacher Training Agency, 2003a) incorporating refinements to the Induction arrangements and revised standards have been put in place (TTA, 2003b). The National Standards for Induction, together with a comprehensive set of guidance, resources and case studies, are now readily available. In 2004, a further consultation was conducted by the DfES concerning proposed amendments to the regulations for induction of NQTs to allow greater flexibility in relation to the period and places in which induction can be undertaken and these purposes have since been achieved. The DfES has also attempted to integrate the Key Stage 3 National Strategy into induction for secondary NQTs via interactive study materials on a DVD ROM (Department for Education and Skills, 2004).

More generally, the School Teachers' Review Body has agreed to changes in teachers' contracts that include guaranteed 'professional' time, which should benefit induction tutors. The National Workforce Remodelling Agreement was signed by the Government, local education authority employers and the school workforce in January 2003, and paves the way for a significant increase in other staff who work in schools and the transfer of some classroom duties to teaching assistants, thereby positively impacting teacher workload. The first phase of the reform started in September 2003 and consequently will bring with it new ways of working for teachers with implications for their induction (see [www.remodelling.org](http://www.remodelling.org)). A further recent development concerns the ongoing inspection of induction. Since 2005, to provide further evidence of standards achieved by trainees and their quality as practitioners, Ofsted has been conducting regular survey inspections of NQTs. These are designed to provide information about the overall quality of NQTs to inform both policy and strategic planning.

## 1.4 Research background

### *Teacher quality and teacher effectiveness*

The precise way in which indicators of teacher quality interact with demographic variables to affect student learning outcomes is, at the present time, unclear from the available research evidence. Little comparative data, in terms of quantity and quality, is readily available, while those indicators of 'teacher quality' that are at hand tend to be limited in scope and focus upon narrowly-defined intellectual attributes (as represented by grades and academic qualifications) as opposed to actual classroom performance (Zumwalt and Craig, 2005). However, teaching requires a combination of both intellectual and personal qualities and so a more complex and subtle approach is necessary.

Achieving a refined understanding of the effectiveness of teacher attributes, characteristics and formative categories appears to be elusive



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in terms of the extant research from empirical studies, while the systematic relationship between educational inputs (resources) and outputs (student performance) remains disputed (Rice, 2003). Nevertheless, Rice identifies the following five broad categories of empirical evidence that emerge, together with the suggestion that the context of teaching (postulated as variance-components) is important, as key factors in determining the effects of teachers on educational outcomes, factors that prove to be both additive and cumulative:

- teacher experience
- teacher preparation and formation programmes (examples being initial and continuing professional development)
- teacher certification and routes into professional occupancy
- teacher coursework
- teacher outcomes

Given that many dimensions of teacher professionalization matter, teacher policies and practice need to reflect the fact that teaching is a complex activity and one that is influenced by many elements of teacher quality; and the research needs to reflect this and make a more concerted attempt to capture these interactions among multiple dimensions of the process.

A judicious use of the research evidence on teacher attributes, characteristics and the formative categories employed in their professional preparation may help isolate the links with teacher effectiveness, especially the way in which these affect improved educational outcomes. In so doing, it may also assist policy-makers and lead practitioners to identify where exactly along the spectrum of multiple measures and interventions which aim to attract and equip new teachers (and to support and develop existing ones) that investment in teachers can make a significant difference in realising educational goals, such as enhancing teacher quality, improving pupil wellbeing and raising achievement. One such area of intervention and investment is the induction of newly qualified teachers (NQTs) into the profession, and the added value of structured teacher induction programmes, allied with their contribution to developing a highly qualified teacher workforce, is of growing interest to researchers.

#### *The 'science of learning'*

However, research on learning is also pertinent to the milieu of induction. A revolution in the study of the brain has occurred (see, Lakoff and Johnson, 1999; LeDoux, 2002; Ramachandran, 2003) that may have important implications for initial and continuing professional development (see, Sankey, 2004; White, 2002). On the basis of neuroscientific

insights, 'the conscious/subconscious self is a complex and dynamic whole uniting body and brain' and 'recognising the conscious/subconscious nature of the self incorporates the idea that actions are not arbitrary even when performed subconsciously. They result from the meanings and values laid down in the brain over time and through experience' (Sankey, 2004, pp 11 and 15). This may imply that there are problems in our inherent trust in linear causality, as suggested by Freeman (1999), but the obverse of this is that the new neurodynamics may offer an enlarged conceptual framework for understanding interrelations between experts and novices. A new 'science of learning' is emerging; but the implications of these and other related findings have yet to be fully appreciated by the teaching profession. There is a growing need to implant, develop and extend an awareness of theories of how people learn and the findings of the National Research Council of the Academies, USA (Bransford et al., 2000) and associated publications (for example, Donovan and Bransford, 2005) have been especially influential in drawing attention to organising knowledge around core concepts, the propitious circumstances of community-centred learning environments, and the indispensable role played by pre-conceptions, conceptual frameworks and metacognition in the process of learning and in developing the notions of learning for transfer and 'sense-making'. Similarly, research and development projects, such as AHRB-sponsored 'Attention and the knowledge base of experts', are paving the way in clarifying what teachers know and indicating how and why behaviour is patterned in regulating performance and developing expertise (Luntley, 2005; Luntley and Ainley, 2004, 2005).

#### *Research into induction*

The resource-intensive nature of teachers and the critical roles that teacher quality and learning strategies play in helping to realise the fundamental objectives of pupil wellbeing and achievement imply that a critical determinant of the value of research on teacher induction is the extent to which it is located within this broader research milieu. An American (non-systematic) review of research on induction (Arends and Rigazio-DiGilio, 2000) summarises previous reviews of the topic by Darling-Hammond (1994), Gold (1996) and Huling-Austin (1986, 1990, 1992) as all reaching similar conclusions. The goals for induction programmes have remained virtually unchanged, and there appears to be a growing body of research evidence which suggests that carefully constructed and managed induction programmes achieve their goals: those that are designed around outcome-based objectives for the participants and monitored for progress against pre-defined, staged targets and with specified objectives work.

The recommendations for mentor training and for reducing the workload and stress that new teachers experience have also been quite consistent (cf. Conley and Woosley, 2000). Similar factors are

highlighted by a joint USA Department of Education Forum for Asia-Pacific Economic Co-operation (APEC) and Pelavin Research Institute study (Moskowitz and Stephens, 1996) in terms of basic features and common characteristics of successful programmes. These accord with key findings from a major evaluation relating to the California Beginning Teacher Support and Assessment (BTSA) Programme (Shields et al., 2001). Other research evidence from America 'suggests that states and districts like Cincinnati, Ohio; New Haven, Connecticut and New York City's District 2, which have invested heavily in improving teacher induction and professional development as part of their long-term recruitment strategy, have a far greater capacity to maintain an adequate supply of teachers while simultaneously ensuring that they will be prepared to teach effectively' (Rustique-Forrester and Haselkorn, 2001, citing research by Rustique-Forrester, 1995; Elmore, 1997 and Snyder, 1999). Comparative research indicates more systematic and structured approaches to induction are now emerging worldwide (Wong et al., 2005).

In England, revisions to the Career Entry Profile (now Career Entry and Development Profile), based in part on the research-based evaluation findings of Totterdell et al., (2002a), have enhanced its potential to be used as a key bridging tool between initial training, induction and early professional development. This changed emphasis (which now focuses on how NQTs develop and move from novice to expert status) is timely. Induction is being established as part of a continuum, starting with how teachers are recruited, trained and appointed; through how they are inducted, supported and sustained; to, finally, how they are assessed, rewarded and developed professionally. This is in line with other similar professions (General Teaching Council, 2000). The early signs indicate that this shift in focus is having an effect, with Ofsted inspectors having confirmed high standards among NQTs (Miliband, 2003, p 2; Thornton, 2003, p 16). Moreover, studies by Totterdell et al. (2003) and Menter et al. (2002) both assert that quality induction is axiomatic to retention rates, job satisfaction and the development of the teacher expertise that unleashes new teachers' energies so as to merit their recognition as 'highly qualified'.

#### *Questions unanswered*

Nevertheless, some quandaries remain. For example, in the context of devolved budgets and the absence of ring-fenced monies for induction, how can head teachers best be persuaded that potentially costly induction programmes for NQTs offer value for money, given the reality of pre-existing competing budgetary pressures? Similarly, what can be done to eliminate the phenomenon that Bubb et al. (2005) refer to as the 'rogue school', which not only fails to support new teachers adequately but can be seen as actively exploiting them in an unprincipled way? How can evaluators' aggregate direct and inferential evidence from research, inspection, school self-

evaluation and performance management be fully and appropriately utilised to indicate the impact of induction on pupil learning? How can the continuity of development, so often proclaimed as a principle aim of induction, be made more consistent so that induction goals, school orientation and professional development activities experienced by NQTs provide what Tickle (2000) describes as the 'appropriate circumstances' for early professional formation? Finally, how can continuity of development be provided through 'propitious conditions', as described by Bubb et al. (2005), under which new teachers can thrive and their creative, innovative energies be released for teaching and learning in classrooms? Tasmanian Educational Leadership Institute (2002) and Canniff and Shank, (2003) make helpful suggestions for ways forward in the approach to the induction of teachers in their first year of teaching.

#### *The use of systematic literature reviews*

In 2003, a pilot systematic review was carried out at the Institute of Education, University of London, using EPPI-Reviewer to examine literature that addressed the question, 'How does current research characterise the impact of newly qualified teachers (NQT) induction programmes on new teachers in relation to enhancing teaching expertise, professional development, job satisfaction and retention rates?' (Totterdell et al., 2004). This review analysed two descriptive studies which reported NQT / beginning teacher (BT) induction findings in two areas in the United States. These studies were used as guidelines for further research and to develop the research question in this present review. From these two studies, the authors concluded that more research is needed into NQT induction if there is to be confidence in the efficacy of drawing conclusions across studies. Particular recommendations made in the review relate to the content and type of such research. Among other things, it suggested that more needs to be known about distance learning support for inductees; effective mechanisms for monitoring support structures for inductees at local level; productive pedagogical tools and evidence-carriers, such as professional development portfolios and teacher transcripts that would better support the concept of a continuum from initial training through induction and into early professional development, and promote a commitment to lifelong learning as a sine qua non of professionalism; and into mentor skills, attitudes and behaviour that generate support that is not constraining in its conventionality and encourages confident innovation, creative experimentation and a capacity to embrace accelerated change (Totterdell et al., 2004, pp 43-44).

This systematic review is an extension of the Pilot NQT Induction review (Totterdell et al., 2004). Its purpose is to review existing evidence and to draw conclusions concerning the robustness and depth of research knowledge in this area.

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## 1.5 Authors, funders and other users of the review

The authors of the review are all members of the Induction Review Group which is led by a Professor at the Institute of Education (IOE), University of London, Manchester Metropolitan University (MMU), and consists of experienced teacher educators with expertise in initial training, induction and early professional development, as well as having considerable research experience in teacher education, induction and related fields of professional inquiry. A research officer, a research assistant, and two serving teachers, one of whom has been involved in two earlier projects on induction and is also involved in a General Teaching Council (GTC)/TDA action research project, make up the project team. A member of the EPPI-Centre with expertise in evidence-based research provided support and advice.

The protocol was discussed and drawn up by the Review Group (RG) and a consensus reached as to the review question, the definitions and the inclusion/exclusion criteria. The IOE, University of London, personnel involved in the review (Lynda Woodroffe, Sara Bubb, Ruth Heilbronn and Caroline Daly) liaised with Professor Michael Totterdell (Manchester Metropolitan University), who was the overall Project Director. Sara Bubb was the Associate Project Director, with leadership responsibility on the IOE, University of London. Lynda Woodroffe was the lead researcher in this team, who communicated with all others regarding progress in relation to the literature search, screening, keywording, in-depth review and all other processes that required validity measures. Screening and keywording and in-depth reviews were initially carried out by Lynda Woodroffe, Caroline Daly and Tim Smart, with advice from Sara Bubb, Ruth Heilbronn and moderation by Michael Totterdell and EPPI-Centre staff. Jamie Arrowsmith later joined the team at MMU and contributed to drafting and refining the final report.

This systematic review is funded by the TDA as part of a series of reviews of research for initial teacher training. The methods used were devised by the EPPI-Centre, which is part of the Social Science Research Unit (SSRU), IOE, University of London.

Dissemination of the review findings will take place through the professional contacts of Sara Bubb (London) and Michael Totterdell (Manchester). In due course, a pamphlet will be produced to publicise findings from the review. This will be circulated to professional contacts and other outlets. These outlets include the TDA Induction Co-ordinating network, which is an audience for London Education Authority (LEA) co-ordinators and also conducts a series of termly courses for the dissemination of induction good practice; the UCET CPD committee; global contacts in China, New Zealand, South Africa and the USA; existing specialist websites where sharing information to enhance progress in the area of new teacher induction has been very much in evidence; and by authoring articles in the *Times Educational Supplement* and *Professional Development Today*, the *National Education Research Forum (NERF) Bulletin*, etc.

## 1.6 Review questions

The review question was based on the need to assess induction schemes that have been introduced to guide newly qualified teachers (NQTs) through their initial pedagogic stages from initial teacher training (ITT) to experienced teacher. It included an evaluation of their own professional development, or what retained them in teaching, or an evaluation of their ability to aid pupils' learning.

The overall review question is:

*What are the effects of induction on newly qualified teachers (NQTs) in relation to their professional practice?*

Following systematic mapping, the focus of the review was narrowed to answer the following question at the stage of in-depth review:

*What are the effects of the roles of mentors or inductors using induction programmes for newly qualified teachers (NQTs) on their professional practice, with special reference to teacher performance, professional learning and retention rates?*



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## CHAPTER TWO

# Methods used in the Review

The systematic map and in-depth review was undertaken using EPPI-Centre methods, procedures and software (EPPI-Reviewer). The Review Group determined the scope of the review and identified potentially relevant studies through searching and screening, after which studies were described through keywording to produce a ‘map’ of research activity. Based on this map, the Review Group then decided on the studies to be reviewed in depth. A second set of criteria was applied at the stage of in-depth review and studies meeting these then became subject to data extractions, using EPPI-Centre data extraction tool and guidelines. The in-depth review included judgements (reconciled between the two reviewers assigned to each review) concerning the research quality and the weight of evidence (WoE) that the findings of individual studies contributed to the review question. The results of the individual studies were then synthesised according to a conceptual framework defined in the keywording. This chapter outlines in more detail the process of carrying out this systematic review.

### 2.1 User involvement

The main method for ensuring user involvement in the review was to consult the Advisory Group at key stages of the review. In particular, its advice was sought in framing the question, establishing the conceptual framework, and commenting on the implications of the map and on the findings of the in-depth review.

The expertise and user perspectives of the Advisory Group assisted the Review Group in the following main areas:

- identification of the most important focus of the review
- definitions of induction
- identification of the different audiences for, and dissemination of, the review
- an assessment of the interim and final results

Further user involvement was undertaken through the direction of project co-director, Sara Bubb. She identified relevant parties who have been involved in using the research that was being reviewed in this report, and drew their attention to this systematic

review. Contacts from this included induction co-ordinators in LEAs (such as Michael Jolly, from Croydon LEA, and Karen Jarmany, from Manchester LEA) and school head teachers, induction teachers and mentors. Advice was also sought from Kevan Bleach of Wolverhampton University.

User perspectives are represented in the membership of both the Review Group and Advisory Team. In addition to those actively involved in initial teacher education and training, induction support and training, and school improvement work, serving teachers involved in mentoring inductees and co-ordinating induction programmes are involved. Each member of the Advisory Group was consulted at the inception, screening, mapping and synthesis stages of the review. Through the respective secondary and primary age-phase course co-ordinators at the Institutes of Education in London and Manchester, ITT course participants (including trainees, their tutors and school-based mentors), NQT courses participants (including NQTs, their Course and Induction Tutors) and their respective Master of Teaching and Master of Arts in Teaching Programmes participants were consulted and asked to comment on evidence-based syntheses. Further consultation with the Advisory Group and an independent peer review took place after the submission of a draft report. A ‘project correspondent’ was solicited in

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each of the countries from which research literature is located and a critical appraisal was elicited from an international authority in the field, Dr Betty Achinstein of the New Teachers Center, Santa Cruz, California.

## 2.2 Identifying and describing studies

### 2.2.1 Defining relevant studies: inclusion and exclusion criteria

1. Years 1988-2004: All studies used in this review were published, or in the public domain, within these date parameters. Studies older than 1988 were not considered to be able to produce relevant information about induction, as this was a relatively recent systematised initiative. The year 1988 is also significant because it coincides with the first systematic data collection concerning the progression of new teachers published in a report form and feeding into the first report by Her Majesty's Inspectors (HMI) on newly qualified teachers. It was the first of the reports as currently known and so heralds an age of information on the progress of new teachers. Previous surveys were more general. The HMI report was subsequently published in 1992; data collection took place between 1988 and 1991 (Department of Education and Science Inspectorate of Schools, 1992).
2. Relevance to question: All studies used in the review had foci on teacher induction for NQTs, or beginning teachers, which described induction in terms of its effects on NQT teaching practice, learning, expertise, classroom management, teacher motivation and morale, mentoring or retention. Studies reviewed included those that reported on privately or state funded induction programmes.
3. Study type: The studies were from one of the following study types - exploration of relationships and evaluations (naturally occurring or researcher-manipulated) which showed empirical data.
4. Settings: The study reports were derived from early years, primary, junior, secondary school or sixth-form college research.
5. Language: All studies must be published in English.

Studies were excluded on the basis of the following criteria:

1. published before 1988
2. not relevant to the review question (i.e. not relevant to NQTs or beginning teachers induction or mentoring and the effects of this in relation to good practice, teacher expertise, quality teaching, motivation/morale or retention)
3. not an exploration of relationships or evaluations

or reviews, and not providing empirical data

4. not derived from early years, junior or secondary phase education or sixth-form colleges (i.e. community or further education (FE) colleges or their equivalent)
5. not published in English

Following the full-text screening stage, and as a consequence of discussions within the Review Group, it was decided to impose an additional level of screening on to the retrieved studies. Studies that failed to report on effects were also subsequently excluded.

More details on the inclusion and exclusion criteria can be found in Appendix 2.1.

### 2.2.2 Identification of potential studies: search strategy

Different sources of published and unpublished research literature were searched. The aim of the literature search was to locate as much of the relevant literature as possible.

#### Electronic databases

Searches were conducted on commercially available electronic databases (British Education Index, Social Science Citation Index, Sociological Abstracts, ASSIA, ERIC, Psychinfo, Educationline, CERUK, Australian ERIC, Zetoc).

Search strings were developed by combining:

- keywords that related to induction (e.g. effective teaching, induction)
- keywords that related to the population (e.g. NQTs, beginning teachers)
- keywords that related to the setting (e.g. early years, primary, secondary)

Further details of the electronic searches are given in Appendix 2.2.

#### Handsearches

Journals were searched for the period 1988-2004, as per the exclusion criteria. In addition, the researcher was informed by members of the Review Group and Advisory Group of new and relevant literature and evidence from key texts. Relevant studies were handsearched using the university libraries. Full texts were obtained either electronically or through inter-library loans and compiled into an indexed research reference library. A full list of handsearched journals is given in Appendix 2.3.

### 2.2.3 Screening studies: applying inclusion and exclusion criteria

Citations and abstracts identified from the searches were stored on Endnote bibliographic databases. These were then screened according to the agreed criteria for screening, using agreed screening codes. An initial round of screening was conducted, using the information provided by electronic databases, the study title and, where available, the abstract.

For those studies that appeared to meet the criteria, a second stage of screening took place in which the Review Group applied the same criteria to the full text of each report that was (i) not excluded in the first round of screening and (ii) available to the Review Group before April 2004. A third round of screening also took place, whereby further decisions to exclude studies were taken where the overall focus of a study failed to report 'effects'.

The method used for screening applied a set of exclusion codes in sequence from Exclusion 1 to Exclusion 5. Where none of the exclusion codes could be applied, the study was coded I = Include and the study considered on topic. Only one code, the highest relevant code, was applied.

### 2.2.4 Characterising included studies

All full-text reports which met the inclusion criteria that were accessible, either electronically or as hard copies, were then coded using the EPPI-Centre Core Keywording Strategy (EPPI-Centre, 2002a) as well as an additional set of review specific keywords (see Appendix 2.4). The core EPPI-Centre keywords included codes for topic focus, population and setting, while review-specific codes focused on the induction focus and population. All the keyworded studies have been added to the larger EPPI-Centre database, REEL, to facilitate access by others via the website.

### 2.2.5 Identifying and describing studies: quality-assurance process

#### Screening

During the second stage of screening, a sample references from all databases was 'double-screened' by the Review Group to ensure consistency in screening. Two group members then agreed to screen an equal number of studies. This exercise was conducted to foster a shared understanding of the inclusion/exclusion criteria and further guidance for applying the inclusion/exclusion criteria were subsequently drawn up. A third member of the Review Group scrutinised the process.

Quality of consistency for screening was further assured by the 'double-screening' of an agreed 5% of studies (N=20). This was carried out by the EPPI-link person, in conjunction with the lead researcher, Lynda Woodroffe.

#### Keywording

Quality assurance for keywording was carried out in a similar way, by collectively establishing a common understanding of coding of the studies for entry onto the EPPI-Reviewer.

## 2.3 In-depth review

### 2.3.1 Moving from systematic mapping to in-depth review

Following the production of the systematic map, the Review Group decided to narrow the focus of the review to those studies that included specific information about teacher performance, teacher learning and retention rates. This decision was made, taking into account the need for NQT personnel to have detailed information about the above for guidance for future induction practices.

Studies were included if they were:

1. keyworded topic focus as 'teacher retention' or 'teacher performance' or 'teacher learning'

AND

2. keyworded the population focus as 'inductor' or 'mentor'

AND

3. reported empirical information about 'teacher retention' or 'teacher performance' or 'teacher learning'.

Exclusion criteria for in-depth review were as follows:

1. not keyword as topic focus on 'teacher retention' or 'teacher performance' or 'teacher learning'
2. not keyword as population focus on 'inductor' or 'mentor'
3. not reporting empirical information about 'teacher retention' or 'teacher performance' or 'teacher learning'.

This resulted in the revised research question:

What are the effects of the roles of mentors or inductors using induction programmes for newly qualified teachers (NQTs), on the professional practice of NQTs, with special reference to teacher performance, professional learning and retention rates?

### 2.3.2 Detailed description of studies in the in-depth review

The EPPI-Centre Review Guidelines (EPPI-Centre, 2002b) were applied to the studies that met the criteria for in-depth review. Using the EPPI-

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Reviewer, reviewers interrogated and extracted data on the studies that were identified as meeting the in-depth inclusion criteria.

### **2.3.3 Assessing quality of studies and weight of evidence (WoE) for the review question**

First, the studies chosen for data extraction were examined closely by members of the Review Group. By using the EPPI-Reviewer interrogation facility, assessments of the execution of the studies selected, description of the context, sampling, methodology, analysis and results were carried out. Valid, reliable, generalisable and trustworthy measures were also noted and reviewers made a comparison between objectives and conclusions (WoE A).

The second WoE criterion used for this in-depth review involved the identification of the extent to which the study used the optimum research design to best answer the research question for the review (WoE B). Low, medium and high ratings were given for this judgement.

The third WoE criterion used for this in-depth review involved the identification of the extent to which the study is relevant to the research question for the review (WoE C). Low, medium and high ratings were given for this judgement.

Finally, the overall WoE (WoE D) that the studies provided with which to answer the research question was assessed using the three domains (A, B and C) listed above. Low, medium and high ratings were given for this judgement.

It was agreed that the overall judgment of a study could be taken from the WoEs above, based on an average of the weightings. Where a study did not get all the same grades and the average was inflected by a higher or lower grade level, this is reflected by the use of a hyphen. The first grade indicates the overall average with the second grade indicating a qualifying weighting that is higher or lower.

1. It is axiomatic that all the studies in this in-depth review were relevant to the revised review question.
2. Studies which were judged to be low in WoE D would not be counted as good examples of sound research on the grounds that their results might not be replicable.
3. Low trustworthiness would reduce the strength of evidence for the findings of a study.

The team therefore considered that studies that met the in-depth review criteria and gave sound results had to be medium to high in overall quality in terms of relevance, methods and results (WoE D) for modest to strong recommendation for representation and illumination of the review question. In effect,

this also meant that studies included in the synthesis were all medium or high in trustworthiness (WoE A), and medium or high in relevance to the review question (WoE C).

### **2.3.4 Synthesis of evidence**

The EPPI-Centre database facilities were used to assess which of the studies that underwent an in-depth review most closely met the review question. The results of the data extractions were then explored to elicit common elements between the studies in relation to the review question using three broad categories:

- teacher performance
- professional learning
- retention rates

These results were not subsequently represented in numerical terms, for two reasons. First, it was considered that the notion of aggregating a number of overlapping elements / themes does not take adequate account of either the specificity of focus or the particular context of the studies. Second, it was considered that the propriety and utility of an argument that invites interpretation in terms of probabilities based on assigning numerical values to evidence and using the language of arithmetic to proportion results is doubtful. Instead, a comparative analysis was undertaken, drawing on key issues and themes that were identified via extracted findings and evaluating the evidence in favour of a certain result in the light of how well it fitted in with the rest of what we know (or believe) about induction. Thus more subtle and less formalisable judgements were employed that involved a sense of what 'makes sense' out of other factors in our experience of induction, considering possible interactions between these factors, and conferring on them a sort of unity previously lacking that illuminates them in some way.

### **2.3.5 In-depth review: quality assurance process**

Each study in the in-depth review underwent a data extraction by two members of the Review Group independently, including an assessment of the weight of evidence. Two studies were data extracted by the EPPI-Centre link person, Carole Torgerson. Where there were disagreements in coding studies, these were discussed through reconciliations until a common understanding of the research being reviewed was reached. Quality assurance was further provided through Professor Diana Elbourne, who also data-extracted one study and reconciled differences of coding with one of the reviewers of this study because a potential conflict of interest was recognised in relation to its authorship. For all studies in the in-depth review, agreed WoE judgments were confirmed before the studies were uploaded onto the EPPI-Reviewer database.



## CHAPTER THREE

# Identifying and describing studies: results

### 3.1 Studies included from searching and screening

Figure 3.1 shows in diagrammatic form the order of the decisions made for this review. The left-hand side shows the initial stages where reports were found after applying the inclusion and exclusion criteria to handsearching, or through personal contact (N=6). The centre column shows the numbers of reports included and excluded through electronic searching using databases through the application of inclusion and exclusion criteria on titles and abstracts, the numbers of reports that were found to be relevant to the review (N=224, the number of complete study reports that were screened and included in the map (N=75) and the number that were used for the in-depth review (N=10). The column on the right-hand side shows the number of studies that were excluded and the criteria that were applied on their exclusion, according to the decisions taken by the RG for this review (see Appendix 2.1).

Initial searches of electronic databases revealed 3,827 reports while other methods (e.g. handsearching journals) uncovered 36 for potential inclusion. Thirty of the 36 were immediately discounted as part of a one-stage screening process. Titles and abstracts of the citations found by electronic means were then screened against the inclusion criteria. A total of 3,589 were excluded: 1,008 for not being 'on-topic' (exclusion criterion 2); 1,993 were not of the appropriate study design (exclusion criterion 3); 52 for not focusing on the appropriate school setting; and 536 as duplicate references. Following further exclusions of duplicate reports (N=20) and a small number of reports that proved to be unobtainable (N=8), the full texts of 216 reports (of 209 studies) were screened against the inclusion criteria. Of these, 75 were deemed suitable for inclusion in the systematic map.

### 3.2 Characteristics of the included studies (systematic map)

Follow the screening application, the included studies were characterised using the generic EPPI-Centre (EPPI-Centre, 2002a) and review-specific keywords. The following sections present the results of both EPPI-Centre keywording and review-specific keywording by the NQT Induction Review Group.

Generic EPPI-Centre keywords: study type

These were congruent with the inclusion criteria. The map includes keyworded studies, which were used for describing the research in the field.

**Table 3.1** Study types (N = 75; mutually exclusive)

| Study type                         | Number |
|------------------------------------|--------|
| Exploration of relationships       | 35     |
| Evaluation: naturally occurring    | 36     |
| Evaluation: researcher-manipulated | 4      |

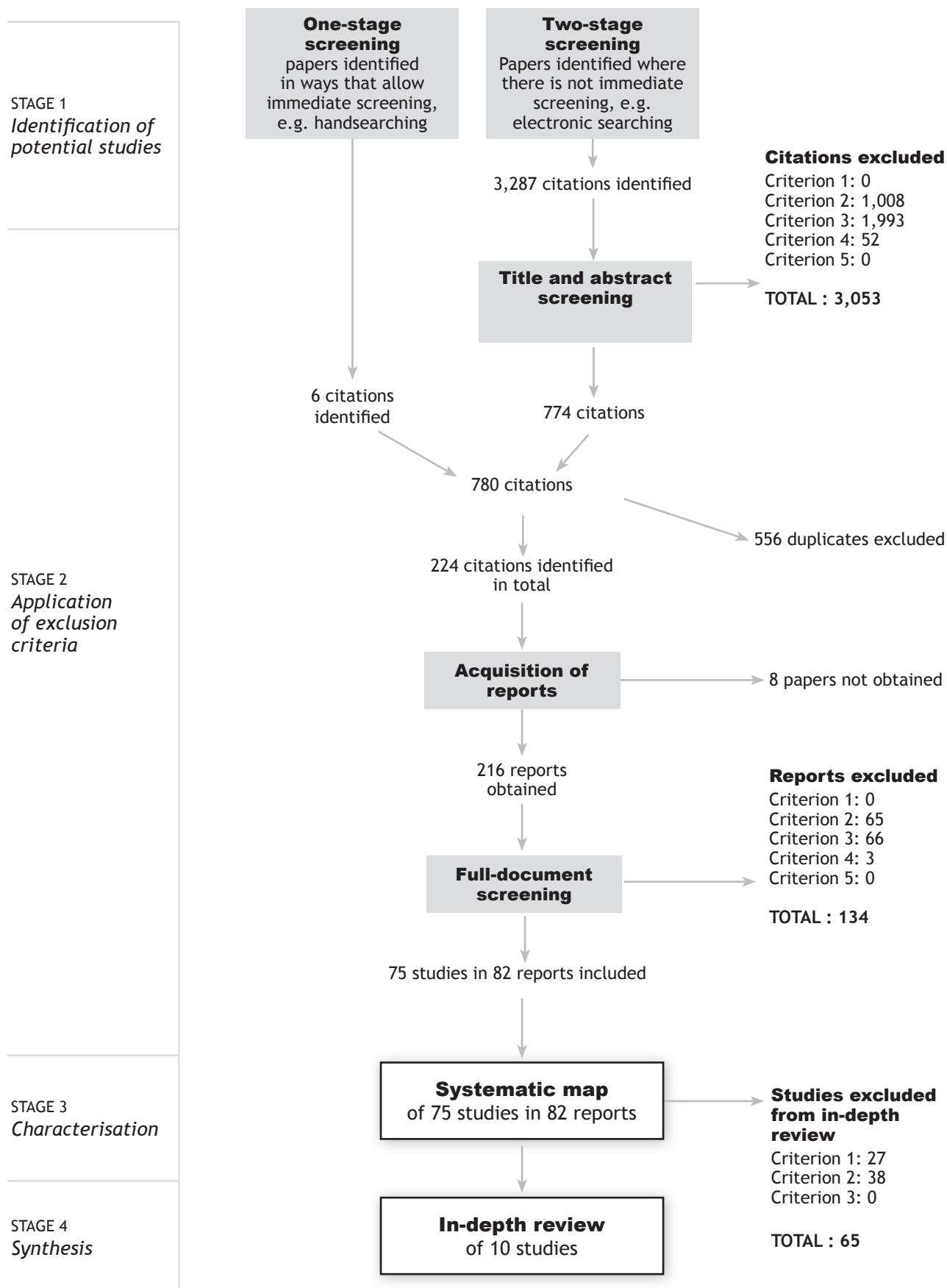
All the studies fell within three groups of study types: exploration of relationships, evaluations of naturally occurring interventions and evaluations of researcher-manipulated evaluations. Most of the studies were either 'exploration of relationships' (N=35) or 'evaluation: naturally occurring' (N=36) type studies. The map also included four 'researcher manipulated evaluations' (Achinstein and Barrett, 2003; Brown, 2001; Stallion, 1988; Veenman et al., 1998).

Generic EPPI-Centre keywords: origins of the studies

All studies were written in English, although some did not originate from English-speaking countries.

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**Figure 3.1** Filtering of papers from searching to map to synthesis



**Table 3.2** Origins of studies (N = 75; mutually exclusive)

| Country     | Number |
|-------------|--------|
| USA         | 56     |
| UK          | 8      |
| Australia   | 4      |
| Canada      | 3      |
| Ireland     | 1      |
| Netherlands | 1      |
| Belgium     | 1      |
| Portugal    | 1      |
| Total       | 75     |

Fifty-six of the studies in this review were carried out in the USA. Eight studies came from the UK. Four studies came from Australia, three in Canada, and one each in Ireland, Netherlands, Belgium and Portugal.

*Generic EPPI-Centre keywords: curriculum subjects which were part of the study focus*

**Table 3.3** Studies that reported curricular areas (N = 75; not mutually exclusive)

| Curriculum area                            | Number |
|--|--------|
| Art  | 1      |
| Geography                                  | 1      |
| Literacy - first language                  | 1      |
| Literacy - further languages               | 2      |
| Mathematics                                | 3      |
| Music                                      | 1      |
| Science                                    | 1      |
| Vocational                                 | 1      |
| Other curriculum                           | 6      |
| Material not focusing on curriculum issues | 61     |

Seventeen studies stated their curriculum foci. Of these, Mathematics was the most reported curricular area (N=3); other school subjects included Science (N=1), Literacy further languages (N=2), Art (N=1), Geography (N=1), Literacy - first language (N=1), Music (N=1) and Vocational (1). The 'other' curriculum areas (N=6) mentioned in the studies included Agriculture (Greiman et al., 2002), and Special Needs Education (Boyer, 1999; Seltzer, 2000 and Whitaker, 2000a). One study (Wong et al., 1999) made reference to Art, Geography, Literature, Languages, Science, Mathematics, Government and Social Studies.

*Generic EPPI-Centre Keywords: Study focus*

**Table 3.4** General topic focus (N=75, not mutually exclusive)

| Curriculum area       | Number |
|-----------------------|--------|
| Classroom management  | 15     |
| Methodology           | 1      |
| Teacher careers       | 17     |
| Teaching and learning | 60     |
| Other topic focus     | 2      |

Using the EPPI-centre keywording strategy keywords, 60 studies on this map were found to have a focus on teaching and learning. Seventeen had foci in teacher careers, 15 in classroom management, two for 'Other' topic focus and one for methodology.

Two studies were keyworded using the 'other' category; support and job satisfaction was reported for 'other' topic focus for Seltzer (2000); and teacher retention was recorded for Totterdell et al. (2003).

One other study, Brown (2001), was keyworded as having methodology for the general focus of the study.

*Review-specific keyword: Study focus*

**Table 3.5** General topic focus (N=75, not mutually exclusive)

| Study focus                      | Number |
|----------------------------------|--------|
| Professional development (early) | 8      |
| Teacher induction                | 42     |
| Teacher retention                | 11     |
| Teacher performance              | 14     |
| Teacher morale / motivation      | 13     |
| Teacher learning                 | 9      |
| Mentoring                        | 12     |
| Classroom management             | 3      |

Although all 75 studies reported on induction programmes, only 42 of the 75 studies were keyworded with a focus specifically on Teacher Induction. Other studies were coded with more than one focus. Since the review was examining the effects of NQT induction on various aspects of first-year teaching experiences, coding also included other variables, such as retention, performance, morale/motivation, classroom management, mentoring and learning. The table above gives figures for these categories. Teacher performance, retention, mentoring and morale and motivation were reported more frequently than other 'effects' reports (N = 14, 11, 12, 13 respectively). Nine studies reported on teacher learning. Eight studies reported on early professional development and three on classroom management.

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*Generic EPPI-Centre keyword: population focus*

**Table 3.6** General population focus (N = 75; not mutually exclusive)

| Population focus                   | Number |
|------------------------------------|--------|
| Learners                           | 1      |
| Senior management                  | 16     |
| Teaching staff                     | 73     |
| Non-teaching staff                 | 2      |
| Other education practitioners      | 7      |
| Local education authority officers | 3      |
| Other population focus             | 3      |

The review question specifies an investigation into NQT induction programme effects, with the result that nearly all the studies focused on teaching staff (N=73) or those who deliver induction or mentoring, and those who receive NQT induction or mentoring during their first year of teaching employment. Sixteen studies gave information about senior management involvement in NQT induction as did seven 'other' education practitioners, three each of local education authority officers (who provided NQT induction) and 'other' population (university or colleges). Two studies included involvement from non-teaching staff (school administrators) and one study was keyworded as induction for 'learners'.

*Review-specific keyword: population focus*

**Table 3.7** Specific population focus (N = 75, not mutually exclusive)

| Population focus | Number |
|------------------|--------|
| Inductees        | 74     |
| Inductors        | 7      |
| Mentors          | 20     |
| Other            | 4      |

Since this review examined research on NQT induction effects, the specific population focus for the 75 studies was inductees (N=74). These comprised only NQTs in their first year of teaching. Other studies focused on the work of mentors involvement in induction (N=20) or inductors (N=7) and 'other' (N= 4). This latter category refers to personnel on school staff, such as head teachers (principals) and administrators, who were also involved in beginning teacher induction.

*Generic EPPI-Centre keyword: educational settings*

**Table 3.8** Educational settings (N = 75; not mutually exclusive)

| Population focus             | Number |
|------------------------------|--------|
| Higher education institution | 2      |
| Independent school           | 3      |
| Nursery school               | 3      |
| Primary school               | 64     |
| Secondary school             | 57     |
| Special needs school         | 3      |
| Other educational setting    | 4      |

Most studies in this review were carried out in primary schools (N=64), although nearly all provided research from the compulsory stage between kindergarten and Year 11 (coded as K-12 in the USA). Three studies provided research from nursery schools, three each in independent and special needs schools, and two studies were coded for their higher education input. Four studies found relevant research in 'other' educational settings (a state college, regional and local education agencies and middle schools).

*Review-specific keyword: study focus and population*

**Table 3.9** Specific focus and specific population (N = 75; not mutually exclusive)

| Study focus / Population focus   | Inductees | Inductors | Mentors | Other |
|----------------------------------|-----------|-----------|---------|-------|
| Professional development (early) | 8         | 1         | 0       | 0     |
| Teacher induction                | 41        | 5         | 12      | 4     |
| Teacher retention                | 12        | 2         | 5       | 0     |
| Teacher performance              | 13        | 1         | 3       | 1     |
| Teacher morale / motivation      | 13        | 0         | 5       | 0     |
| Teacher learning                 | 9         | 2         | 4       | 0     |
| Mentoring                        | 12        | 0         | 10      | 0     |
| Classroom management             | 3         | 1         | 1       | 0     |
| Total                            | 111       | 12        | 40      | 5     |

Table 3.9 shows the relationships between the specific induction populations and the specific foci of the 75 studies in this review. The term 'inductee' refers to the NQT or beginning teacher. The terms



‘inductor’ and ‘mentor’ are interchangeable. ‘Other’ refers to school personnel, such as the ‘administrator’ mentioned in some USA studies, the headteacher (or the ‘principal’ in USA studies) or local government or university staff. The highest overall common foci in this review were found to be in teacher induction and inductees (NQTs or beginning teachers), with 41 studies. Thirteen studies focused on teacher morale / motivation on inductees, 13 on teacher performance on inductees, 12 on mentoring and inductees, 12 on teacher retention and inductees, 12 on teacher induction and mentors, ten on mentoring and mentors, nine on teacher learning and inductees, eight on Early Professional Development (EPD) and inductees, five on teacher induction and inductees, five on teacher morale/motivation and mentors, five on teacher retention and mentors, four on teacher learning and mentors, three on classroom management and inductees, two on teacher learning and inductees, two on teacher retention and inductees and three on teacher performance and mentors.

### **3.3 Identify and describing studies: quality-assurance results**

The Review Group met and agreed specific keywords, entering reports on EPPI-Reviewer. This was found to be more category-specific, and consequently differentiated, than expected, and it was necessary to examine collectively the studies for this review. The difficulties lay in deciding between ‘explorations of relationships’ and ‘naturally occurring evaluations’ types of studies. Therefore, two EPPI-Centre personnel met two of the Review Group to confirm a consensus for keywording. The complete set of studies was examined and coding was agreed.

### **3.4 Summary of results of map**

Studies found through searching electronic databases, bibliographies, journal handsearching, search-engines and through word-of-mouth which met the inclusion criteria were included in a descriptive map of the research activity. As a result, 75 different studies (N=75) were identified, reported in a total of 83 reports.

The systematic map revealed the following:

- The majority of studies were either explorations of relationships (N=35) or naturally occurring evaluations (N=36).
- Most of the reports were from the USA (N=56), the UK (N=8) or Australia (N=4).
- The study focus of most of the reports was teaching and learning (N=60), with significant minorities also dealing with teacher careers (N=17) and classroom management (N=15).
- The vast majority of reports focused on teaching staff (N=73) and had a specific population focus on inductees (N=74).
- Most reports reported studies that had been carried out in primary (N=64) or secondary (N=57) schools.

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## CHAPTER FOUR

# In-depth review: results

At the stage of in-depth review, the Review Group decided to narrow the focus of the review. The criteria were applied to the studies in the systematic map (see Appendix 2.1).

This decision to narrow the focus of the review was made in the light of the need for NQT personnel to have detailed information for future induction practices. This resulted in a revised research question:

*What are the effects of the roles of mentors or inductors using induction programmes for NQT induction, on the professional practice of NQTs, with special reference to their teacher performance, learning and retention rates?*

Studies meeting the second stage criteria were then analysed in depth, using the EPPI-Centre data-extraction guidelines.

### 4.1 Selecting studies for the in-depth review

Using the mapping facility on EPPI-Reviewer to identify those studies that met the inclusion criteria, the following ten studies were included for data extraction:

- Boyer K (1999) *A qualitative analysis of the impact of mentorship on new special educator's decisions to remain in the field of special education*
- Bubb S (2000) *Statutory induction: a fair deal for all?*
- Houston WR, McDavid T, Marshall F (1990a) *Effects of experienced support teacher assistance on 1st year teacher confidence, satisfaction and plans to continue teaching*
- Moore B (1990) *First year teachers and the evaluation process*
- New York City Board of Education (1993) *Mentor Teacher Internship Program*
- Schalock D, Hansen J, Schalock M (2002a) A

*contextual variable influencing the performance of first and second year teachers: mentoring and support*

- Spuhler L, Zetler A (1995a) *Montana Beginning Teacher Support Program: Final Report*
- Stallion B (1988) *Classroom management intervention: the effects of training and mentoring on the inductee's behaviour*
- Totterdell M, Heilbronn R, Bubb S, Jones C (2002a) *Evaluation of the effectiveness of the statutory arrangements for the induction of newly qualified teachers*
- Whitaker S (2000a) *Mentoring beginning special education teachers and the relationship to attrition*

Studies that best met the review question were described in terms of their relevance and compared with the other studies in the systematic map. The studies found to meet the in-depth review criteria were included on the grounds that they focused on 'teacher retention' or 'teacher performance' or 'teacher learning', had a population focus 'inductor' or 'mentor', and reported empirical information

about 'teacher retention' or 'teacher performance' or 'teacher learning'. Twenty-seven of the studies in the map did not meet the in-depth review inclusion criterion 1 (not keyworded as focusing on 'teacher retention', 'teacher performance' or 'teacher learning'). Thirty-eight studies in the map did not meet the in-depth inclusion criterion 2 (keyworded as population focus 'inductor' or 'mentor'), and all the other studies used in the map reported empirical information about 'teacher retention' or 'teacher performance' or 'teacher learning'.

## 4.2 Further details of studies included in the in-depth review

Before considering further the characteristics of those studies selected for the in-depth review, it is helpful to explore the basic details of each.

Detailed summaries of the reports studied in-depth can be found in Appendix 4.1. However, the following are brief outlines of the aims and conclusions of those reviewed.

### **Bubb S (2000) Statutory induction: a fair deal for all?**

The aims of this study were to examine the statutory induction arrangements in a London borough for their NQTs, taking into account use of career entry profiles, the provision (or lack of) and use of 10% timetable relief, and the roles and quality of the induction tutor.

The study found the following:

- The LEA in which this study took place showed adequate provision for NQT induction, but that this was not necessarily typical of the national provision.
- NQTs should have more release time, monitoring and support during their first year.
- Failing the NQT year has repercussions on the career path of the new teacher - not having induction to address this situation was regarded as unfair.

The author (p 4) also states the following:

*Overall, in the first year of statutory induction, most NQTs in the LEA that I studied were getting what schools are responsible by law for ensuring. Many were getting a Rolls Royce level of support, monitoring and assessment which was helping to 'make a real and sustained contribution to school improvement and to raising classroom standards (DfEE 2000: para 1). My small-scale research on how induction was implemented in one LEA throws up many issues. Of greatest concern is the variability of provision....More should be done to ensure that all NQTs get their fair share of release time, monitoring, support and assessment and stand a reasonable chance of passing - no matter what school or LEA they are in.*

Given the geographical constraint of a study limited to one LEA, results here cannot be considered to be generalisable into the wider population of NQTs in their induction year.

### **Boyer K (1999) A qualitative analysis of the impact of mentorship on new special educators' decisions to remain in the field of special education**

The aim of this study was to analyse the 'impact of year-long mentorships on the decisions of 9 new teachers of students with autism, hearing impairments, moderate retardation, and physical disabilities, to remain in the educational field'.

- The study found limited evidence suggestive of the impact mentorship has on retention in the field (see conclusion below).
- The study gave some indication of the way in which mentorship may help to develop professional practice, such as by exemplifying continuing development and through collaborative and cooperative teaching.

Boyer (p 96) concluded that:

*the impact of the mentor on the new special educator's decision to remain in the field is seen to be not wholly direct but often indirect; the importance of counsel from an experienced special educator who is easily accessible and physically available has been acknowledged.*

### **Houston W R, McDavid T and Marshall F (1990a) Effects of experienced support teacher assistance on first year teacher confidence, satisfaction and plans to continue teaching**

The authors evaluated the Houston Independent School District (ISD) support programme for first year teachers. The whole study encompassed 11 research questions, only two of which were used for this systematic review. The authors based the research on ascertaining methods of improving teachers' effectiveness through a structured, systematic professional development support programme (p 10):

- to effect ongoing improvement in the quality of instruction for all students by increasing the retention rate of promising first-year teachers
- to strengthen the collaboration between, and among, area universities and Houston ISD
- to improve the educational programmes in both settings
- to implement this subcomponent focusing on minority teachers, early childhood teachers, bilingual / English as a second language (ESL)

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teachers, and special education teachers as a part of the pilot programme that will serve as a model for the 1991 state-mandated teacher induction program

The first two parts of these aims are relevant to the revised review question.

The study's conclusions reported that support teachers/mentors found that NQTs identified four major problems in their first year as: (i) managing the classroom, (ii) managing the paperwork, (iii) managing their own time, and (iv) having a lack of personal time. The authors added that mentors were most helpful to the NQTs in solving problems of managing the classroom as well as emotional support, the schools' systems and instructional information. They also reported that mentors were critical of the conditions of the NQT induction programmes which they conducted: the mentors needed more time, more specific guidance on their induction, to be better matched with the NQT and to give NQTs the opportunity to observe mentor classroom teaching. NQTs recruited for this study were positive about their induction and they reported that the programme in which they were inducted should be continued.

### **Moore B (1990) First year teachers and the evaluation process**

Moore investigated the effect of induction and evaluation on first-year teachers' learning and satisfaction. The objectives were to discover what specific methods of induction and evaluation help beginning teachers to learn more about teaching and how this influenced satisfaction with their work. The author also examined new teacher induction in terms of their contentment in their work and the effects of this on teacher retention

The three research questions were as follows (p 3):

1. How did first year teachers describe the sources of 'learning' they experienced during their induction?
2. How did they rate the evaluation process as a contribution to that learning?
3. How did learning to teach influence their satisfaction?

The study found induction to be a positive process and that the majority of teachers were satisfied with their induction via a programme or mentoring. The participants attribute most of their learning to the induction programme followed, and reported that (a) personal interaction with other teachers was very useful to their professional learning, (b) contact time with mentors was most useful at the beginning of the school day, and (c) practical workshops were also very useful. In terms of evaluative practices, inductees indicated that it was important for evaluations to be constructive and not simply critical, and that a follow-up was more

useful than an actual evaluation. However, new teacher satisfaction was only slightly influenced by evaluations, and, through induction, satisfaction levels in general increased substantially.

As retention is dependent on satisfaction, one can therefore conclude that induction may have a positive role to play in the retention of NQTs in the profession.

### **New York City Board of Education (1993) Mentor Teacher Internship Program (MTIP)**

This report is an evaluation of the Mentor Teacher Internship Program in the city of New York. A follow-up to the previous year's study, carried out in New York State after the suspension of the programme in 1986 due to budgetary constraints and its re-establishment in 1992-3 in respect of a new legal clause in New York State, the evaluation took place in the second year of the re-establishment programme, covering the 1993-1994 period.

The study indicated that 'overall results indicated that the program had accomplished its major goals'. Based on the report, the Office of Education Reform Audit (OERA) made the following recommendations:

1. The MTIP should be retained as a way to increase and maintain an effective teaching force in the NYC public schools.
2. The MTIP should begin as early in the school year as possible, in order to minimise classroom disruption and maximise benefit to the new teachers.
3. The strongest emphasis in selection of mentors should be placed on matching mentors to interns, with less emphasis being on the mentor being an active teacher in the same school as the intern. The data indicated that mentor-intern match influenced the achievement of the MTIP goals, presumably because matched mentors are better able to communicate with, and to guide, their interns.
4. To facilitate an early start to the programme and appropriate mentor-intern matching, an effort should be made to broaden the mentor pool, either by increased use of retirees or by offering a variety of incentives to active teachers.
5. Funding should allow all mentors, whether new or experienced, to attend the initial two-hour orientation in order to acquaint them with changes in programme organisation.
6. All mentors should be provided with the full complement of released periods stipulated in the programme guidelines to enable them to visit the intern's classroom and participate in a weekly mentor-intern conference.



7. If high quality coverage is not available for mentor, then either district provision of staff development for coverage teachers should be instituted or alternative arrangements should be considered, such as increased use of retirees, cluster teachers, or district-office mentors.
8. Future evaluations should pay some attention to the differences between the organisation and effects of the MTIP in elementary schools versus intermediate/junior high schools, and high schools.
9. The Office of Monitoring and Improvement must verify and ensure that members are receiving the periods to which they are entitled, in order to serve their interns.
10. Continue the college course component for the interns' skills development and application in the classroom, and increase the dissemination of this service so that more Interns have the opportunity to enrol in courses.

**Schalock D, Hansen J, Schalock M (2002a)**  
***A contextual variable influencing the performance of first and second year teachers: mentoring and support***

The aims of the study were to monitor and evaluate the mentoring and support for new teachers in schools over three years. The study focused on teacher careers and learning in K-5/6 of USA elementary schools; it is a general examination of the effects of mentoring on new qualified teachers. The programme used was the teacher effectiveness project (TEP).

Without controlling for additional contextual variables, there were no observable connections between type or amount of mentoring received and level of proficiency observed through the TEP-2 Observation Protocol. For whatever reasons, the expected relationships between access to mentors and the performance of beginning teachers do not appear in this study. This may be due to many factors and certainly does not shed light on what performance would have been without mentoring.

Focus group results strongly point out other benefits of early career mentoring, such as 'emotional support and dealing with frustration or discouragement'. The authors then compare the second year teachers with the first year and suggest that mentoring results are clearer after a further year. Overall, this study did not find that mentoring had any effect on the proficiency of teaching performance or teacher learning in the first year of teaching.

The authors concluded as follows:

*From the various sets of data presented in this brief it is clear that the expected relationship between*

*the type and amount of mentoring and the classroom performance of beginning teacher may not emerge until the 2nd year of teaching. Inclusion of our 3rd year data and additional contextual variables may help to clarify this still murky and somewhat confusing picture.*

**Spuhler L, Zetler A (1995a) Montana Beginning Teacher Support Program: final report**

The aim of Spuhler and Zetler's study was to evaluate the Montana Beginning Teacher Support Program (BTSP). This is the final report of a three-year study of the BTSP. Year 1 (1992-1993) was the pilot year, followed by years 2 (1993-94) and 3 (1994-95). The purpose of the study was to provide a comprehensive description of all phases of the programme as it was conducted from 1992-1995; the particular focus of the report is a study of the effect of the formal mentoring relationship between master teachers (mentors) and beginning teachers / newly qualified teachers (mentees).

The authors concluded that mentoring showed a positive effect upon retention within the profession over the three-year study period, and that professional practice also benefited as double the number of mentees than other new teachers were rated as 'above average'. In general, mentee problems were less prevalent after mentoring than they were before, and the researchers noted that formal pairing of beginning teachers with an experienced mentor is an important part of new teacher development and that the mentoring programme could be unequivocally recommended to the local authority in question. The scheme enjoyed universally positive attitudes among the mentors and administrators, although it was also noted that factors on a school level - the structural arrangement of a particular institution - was a factor affecting the impact.

**Stallion B (1988) Classroom management intervention: the effects of training and mentoring on the inductee's behaviour**

Stallion developed three central questions in her research:

1. What were the complexities facing beginning teachers (NQTs)?
2. What current structures existed within the organisation of teacher education to reduce those complexities?
3. What intervention programmes were introduced to reduce those complexities?

The research found that there were very few studies (at the time of writing) on the relationships between mentors and NQTs, and a suggestion was made that more research was needed to examine this. She found that the work of support teachers/mentors

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was a vital ingredient for the transfer of knowledge and experience to the NQTs. She stated also that, before inducting NQTs, mentors should undergo appropriate training and recommended that mentors and inductees train together since she found that, in training together, the dialogue and professional debate between them was found to be more constructive.

Stallion (pp 32-34) made 13 recommendations, five of which related to NQT induction. Summarised, these five were as follows:

- School principals need to engage in classroom management training.
- Classroom management training should be conducted early in the school year and more than two days should be allowed for this.
- Conference report forms should be taught as part of this training and monitoring of training should occur to match NQT needs.
- NQTs and other trainees should be grouped according to their experiences and other factors that identify them, and trained according to these specific groupings.
- Classroom observations should be increased from four per teacher to six per teacher.

**Totterdell M, Heilbronn R, Bubb S and Jones C (2002a) Evaluation of the effectiveness of the statutory arrangements for the induction of newly qualified teachers**

The authors carried out research one year after a government circular, Circ. 5/99, announcing statutory induction procedures for NQTs in 1999. The starting points for the evaluation were the intentions of the policy (as expressed in Circular 5/99: The Induction Period for Newly Qualified Teachers), and research findings which highlighted the weaknesses of the induction of NQTs before the statutory regulations came into effect, in September 1999. These formed the basis against which empirical findings could be compared and contrasted. The overall approach was therefore to compare the 'intentions' of the policy with the 'outcomes' or actual practices of school and other bodies.

The main findings summarised in executive summary relating to four research aims concern the following:

1. The effectiveness of mechanisms for carrying out the induction of NQTs
2. The effectiveness of dissemination of information by DfES, TDA and appropriate bodies
3. The impact of induction on the effectiveness of NQTs' teaching and professional development

4. The impact of induction on the recruitment and retention of NQTs

These findings were extensive, and can be found summarised in Appendix 4.1. However, some important points relating to induction, teaching, professional development and recruitment were as follows:

- NQTs are acutely aware of variability in different experienced staff's interpretations for assessment against the induction standards and differences of provision across schools, and they are concerned that induction should be equitably implemented.
- The 10 percent reduced teaching timetable is considered a vital component of induction provision by all involved but not universally provided for.
- Observation and feedback of, and observation by, NQTs were found to be the most effective and cost-effective element of induction. The professional dialogue about teaching was particularly beneficial.
- There was no evidence that certain groups (part-timers, temporary contracts, mature entrants, people from ethnic minorities, men or women) had received poor treatment in terms of induction provision.
- Head teachers, induction tutors and NQTs consider that induction provides a bridge between initial teacher education and teaching.
- It was widely considered 'too early to tell' whether induction was having an impact on the recruitment and retention of NQTs through providing a 'bridge' between initial teacher education and further professional development.
- Induction appears to fit in very well with the performance management in school. Head teachers and induction tutors found coherence between the two practices and expected future practical benefits.

The report concluded as follows:

*Since the introduction of the statutory induction policy in September 1999, the quality of provision for newly qualified teachers has improved. There is overwhelming agreement among head teachers and induction tutors that statutory induction is helping NQTs to be more effective teachers.*

The other main findings relate directly to the four research aims of the project.

**Table 4.1** Population focus and topic focus (N = 10; codes not mutually exclusive)

| Topic focus                      | Population focus                              |  |
|----------------------------------|---|--|
|                                  | Inductors                                     | Mentors  |
| Professional development (early) | 1: Totterdell et al. (2002a)                  | 0  |
| Teacher induction                | 2: Bubb (2000), Totterdell et al. (2002a)     | 4: Houston et al. (1990a), Schalock et al. (2002a), Spuhler and Zetler (1995a), Whitaker (2000a)                 |
| Teacher retention                | 2: Stallion (1988), Totterdell et al. (2002a) | 5: Boyer (1999), Houston et al. (1990a), Spuhler and Zetler (1995a), Stallion (1988), Whitaker (2000a)           |
| Teacher performance              | 1: Stallion (1988)                            | 4: Houston et al. (1990a), Schalock et al. (2002a), Spuhler and Zetler (1995a), Stallion (1988)                  |
| Teacher morale / motivation      | 0   | 3: Boyer (1999), Houston et al. (1990a), Spuhler and Zetler (1995a)  |
| Teacher learning                 | 2: Bubb (2000), Moore (1990)                  | 2 Moore (1990), New York City Board of Education (1993)  |
| Mentoring                        | 0   | 4: Houston et al. (1990a), New York City Board of Education (1993), Spuhler and Zetler (1995a), Whitaker (2000a) |
| Classroom management             | 1: Stallion (1988)                            | 1: Stallion (1988)   |

### ***Whitaker S (2000a) Mentoring beginning special education teachers and the relationship to attrition***

The purpose of the study was to find out what NQTs considered to be effective induction (via mentoring) using a programme and to examine the impact of this programme in their special education teaching. The research question was as follows:

What do NQTS consider to be effective induction via mentoring and what is the impact of the programme that they experienced in their special education induction?

Emotional support was found to be important to beginning teachers, although there was a large variation in just how often this was needed. The study also highlighted those factors which mentees found attractive in a mentor, with personal over professional characteristics proving to be most important. Mentor knowledge and personal characteristics were deemed more important than having the same planning period, similar teaching styles, and being of the same gender.

The report concluded that mentors and special education NQTs should be carefully matched and that special education mentors are preferred by the NQTs, highlighting the perceived importance of appropriate matching. The report also found that time spent with mentors was very important to NQTs, as was having more informal contact time. The author considered the study to be limited by the geographical scope involved, and also the small sample size.

### ***4.2.1 Review-specific and population focus of studies included in in-depth review***

Table 4.1 shows the review specific and population focus of the studies included in the in-depth review. Those areas that are the specific focus of the in-depth review are shaded in grey. Six different studies focused on teacher retention, of which two were considered to focus on inductors and five on mentors. Teacher performance was the focus of four studies, of which one focused on inductors and four on mentors. Likewise three studies focused on teacher learning, of which two focused on mentors and two on inductors.

### ***4.2.2 Countries of origin***

Of the ten studies that met the in-depth inclusion criteria, eight originated in the USA (N=8) and two in the UK (N=2: Bubb, 2000; Totterdell et al., 2002a). Section 3.3 provides information about the other studies included in the systematic map. Table 4.2 shows the induction focus by the country of origin.

### ***4.2.3 Curriculum***

Of the studies in the in-depth review, Boyer (1999) and Whitaker (2000a) have a curriculum focus; four other studies in the overall map also have this focus. The other eight studies in the in-depth review had no particular curriculum focus.

### ***4.2.4 Educational settings***

The studies in the in-depth review were predominantly carried out in primary (N=9) or

- 28 What are the effects of the roles of mentors or inductors using induction programmes for newly qualified teachers (NQTs) on their professional practice, with special reference to teacher performance, professional learning and retention rates?

**Table 4.2** Countries of origin (N = 10; codes not mutually exclusive)

| Induction focus                  | Population focus                          |  |
|----------------------------------|---|--|
|                                  | UK Studies                                | USA Studies  |
| Professional development (early) | 1: Totterdell et al. (2002a)              | 0  |
| Teacher induction                | 2: Bubb (2000), Totterdell et al. (2002a) | 4: Houston et al. (1990a), Schalock et al. (2002a), Spuhler and Zetler (1995a), Whitaker (2000a)                 |
| Teacher retention                | 1: Totterdell et al. (2002a)              | 5: Boyer (1999), Houston et al. (1990a), Spuhler and Zetler (1995a), Stallion (1988), Whitaker (2000a)           |
| Teacher performance              | 0   | 4: Houston et al. (1990a), Schalock et al. (2002a), Spuhler and Zetler (1995a), Stallion (1988)                  |
| Teacher morale / motivation      | 0   | 3: Boyer (1999), Houston et al. (1990a), Spuhler and Zetler (1995a)  |
| Teacher learning                 | 1: Bubb (2000)                            | 2 Moore (1990), New York City Board of Education (1993)  |
| Mentoring                        | 0   | 4: Houston et al. (1990a), New York City Board of Education (1993), Spuhler and Zetler (1995a), Whitaker (2000a) |
| Classroom management             | 0   | 1: Stallion (1988)   |

**Table 4.3** Educational setting (N = 10; codes not mutually exclusive)

| Attribute            | Number | Studies   |
|----------------------|--------|---|
| Independent school   | 2      | Houston et al. (1990a), Totterdell et al. (2002a)   |
| Nursery school       | 1      | Schalock et al. (2002a)   |
| Primary school       | 9      | Boyer (1999), Bubb (2000), Houston et al. (1990a), Moore (1990), Schalock et al. (2002a), Spuhler and Zetler (1995a), Stallion (1988), Totterdell et al. (2002a), Whitaker (2000a)  |
| Secondary school     | 10     | Boyer (1999), Bubb (2000), Houston et al. (1990a), Moore (1990), New York City Board of Education (1993), Schalock et al. (2002a), Spuhler and Zetler (1995a), Stallion (1988), Totterdell et al. (2002a), Whitaker (2000a) |
| Special needs school | 2      | Totterdell et al., 2002a; Boyer, 1999   |

**Table 4.4** Study types (N=10; codes not mutually exclusive)

|                                  | Exploration of relationships | Evaluation: naturally occurring  | Evaluation: researcher-manipulated |
|----------------------------------|------------------------------|--|------------------------------------|
| Professional development (early) | 0                            | 1: Totterdell et al. (2002a)   | 0                                  |
| Teacher induction                | 1: Houston et al. (1990a)    | 5: Bubb (2000), Schalock et al. (2002a), Spuhler and Zetler (1995a), Totterdell et al. (2002a), Whitaker (2000a) | 0                                  |
| Teacher retention                | 1: Houston et al. (1990a)    | 4: Boyer (1999), Spuhler and Zetler (1995a), Totterdell et al. (2002a), Whitaker (2000a)                         | 1: Stallion (1988)                 |
| Teacher performance              | 1: Houston et al. (1990a)    | 2: Schalock et al. (2002a), Spuhler and Zetler (1995a)   | 1: Stallion (1988)                 |
| Teacher morale / motivation      | 1: Houston et al. (1990a)    | 2: Boyer (1999), Spuhler and Zetler (1995a)  | 0                                  |
| Teacher learning                 | 0                            | 3: Bubb (2000), Moore (1990), New York City Board of Education (1993)  | 0                                  |
| Mentoring                        | 1: Houston et al. (1990a)    | 3: New York City Board of Education (1993), Spuhler and Zetler (1995a), Whitaker (2000a)                         | 0                                  |
| Classroom management             | 0                            | 0  | 1: Stallion (1988)                 |



**Table 4.5** Weight of evidence by studies (N = 10)

| Studies / Weight of evidence (WoE)      | A      | B      | C      | D           |
|---|--------|--------|--------|-------------|
| Boyer (1999)                            | Medium | Low    | Medium | Medium-Low  |
| Bubb (2000)                             | Medium | Low    | Medium | Medium-Low  |
| Houston et al.(1990a)                   | High   | High   | High   | High        |
| Moore (1990)                            | Low    | Medium | Medium | Medium-Low  |
| New York City Board of Education (1993) | Medium | Medium | Medium | Medium      |
| Stallion (1988)                         | High   | High   | High   | High        |
| Schalock et al. (2002a)                 | Low    | Low    | Medium | Low-Medium  |
| Spuhler and Zetler (1995a)              | Medium | Medium | High   | Medium-High |
| Totterdell et al. (2002a)               | Medium | Low    | High   | Medium      |
| Whitaker (2000a)                        | High   | High   | Medium | High-Medium |

secondary settings (N=10). Most studies (N=9) covered more than one setting; some of the studies had a wider purview, encompassing not only primary and secondary settings but also nursery schools (Schalock et al., 2002a), special needs schools (Boyer, 1999; Totterdell et al., 2002a) and schools in the independent (private) sector (Houston et al., 1990a; Totterdell et al., 2002a).

#### 4.2.5 Study types

The study types included in the in-depth review were eight naturally-occurring evaluations (N=8), one researcher-manipulated evaluation (N=1) and one exploration of relationships (N=1); all showed empirical data. Table 4.4 describes the induction focus by the study type.

### 4.3 Weight of evidence

The weight of evidence judgments were based on the data extraction that considers whether the study's findings can be considered trustworthy within its own terms (WoE A), and the review-specific questions that are completed after data extraction. These refer to judgments given for the appropriateness of the study design for the review question (WoE B), relevance to the review question (WoE C) and overall judgment of comparability of research to the review question (WoE D). The weight of evidence (WoE) from the studies provided judgments of low, medium or high ratings. WoE ratings are listed in Table 4.5 as A, B, C and D, according to the evidence found in the studies examined in the in-depth review.

### 4.4 Synthesis of evidence

From the overall weight of evidence judgements, six of the ten studies found for the in-depth review were given medium or higher ratings for an aggregate of relevance, appropriate study design and reliability for this review question. They are Houston et al. (1990a, parts 5 and 10), New York

Board of Education (1993), Stallion (1988), Spuhler and Zetler (1995a), Totterdell et al. (2002a), and Whitaker (2000a). The other four studies were given medium to lower ratings. The synthesis therefore draws on the six studies with a medium or higher aggregate weighting owing to the weaker evidential basis and lack of compelling reasons for including the lower rated studies.

#### 4.4.1 Specific Induction programmes

The entire list of reports above examines NQT induction; of these six, four evaluated specific induction programmes: Houston et al. (1990a), New York City Board of Education (1993), Spuhler and Zetler (1995a), and Totterdell et al. (2002a). Houston et al. (1990a) evaluated the Houston Independent School District support programme for first year teachers; New York City Board of Education (1993) examined the Mentor Teacher Internship Program (city of New York); Spuhler and Zetler (1995a) evaluated the Montana Beginning Teacher Support programme; and Totterdell et al. (2002a) evaluated the implementation of the statutory provision in England for Induction of NQTs.

However, in relation to the review question - What are the effects of the roles of mentors or inductors using induction programmes for newly qualified teachers (NQTs) on their professional practice, with special reference to teacher performance, professional learning and retention rates? - evidence found from the reports of all six studies was examined as the dividing line between specific induction programmes and what might be described as implicit induction arrangements is not well defined in practice. The examination employs three headings as organising rubrics:

- teacher performance
- professional learning
- retention rates

- 30 What are the effects of the roles of mentors or inductors using induction programmes for newly qualified teachers (NQTs) on their professional practice, with special reference to teacher performance, professional learning and retention rates?

#### **4.4.2 Teacher performance**

Three of the six studies show some evidence of an improvement in teacher performance as a consequence of NQT induction. Two of these are Houston et al. (1990a), and Spuhler and Zetler (1995a). The third, Totterdell et al. (2002a), while not specifically coded as teacher performance as a topic focus because of the short time in which the induction arrangements it was evaluating had been in place, nevertheless addresses the matter prospectively in terms of indicative evidence. Stallion (1988) reported that no significant differences were found between mentored inductees and the control group, apart from one variation in pupil behaviour. The study by Schalock was excluded from the synthesis as it was found to have low-medium WoE D. Overall, however, this study did not find any effect on the proficiency of teaching performance or teacher learning in the first year of teaching, although there was some evidence that the induction arrangements were making an impact in the second year.

Several surveys reported in Houston et al. (1990a) provide good preventive evidence that induction tutors view classroom management as the biggest problem experienced by NQTs. Experienced support teachers (ESTs) questioned in this study ranked classroom management issues as the most significant challenge facing NQTs under their guidance (p 127). Corresponding results from a survey of NQTs showed that they felt classroom management had improved as a result of mentoring and induction, and that this was the area in which they received the most support from their mentors (p 129).

Additionally, the survey of NQTs reported in Houston et al. (1990a) provides strong evidence that contact with tutors aided 'student motivation' and their 'grading of students', with NQTs ranking these respectively as the second and third key areas in which the teacher-mentors afforded the most support, after classroom management (Houston et al., 1990a, Study 10, p 129). Similarly, Spuhler and Zetler's study (1995a) also gave evidence of how NQTs, with the support of induction tutors, had become more confident during the first year of their teaching, overcoming personal blame for classroom problems. Spuhler and Zetler (1995a) examined the sense of wellbeing in NQTs arising from a programme, the Montana BTSP. Two regions of the Montana were compared: Eastern and Western Montana. The report states that NQTs shifted from a preoccupation with self-concerns towards a greater focus on task and impact goals. However, in the comparison between the two regions, the author found that the Eastern Montana sample gained task and impact goals faster than their control counterparts, but this was not the case for Western Montana. Overall, findings suggested that in both areas of Montana, progress in classroom tasks and performance was enhanced beyond expectations, and faster than expected, after the induction programme in which the NQTs participated.

Moreover, evaluations of NQTs by school administrators and school district personnel in the study by Spuhler and Zetler (1995a, p 26) showed that, after the induction year, half of the mentees were rated as exceptional or above average compared with NQTs from other regions. Other figures given in the study suggest that district and school administrators and senior staff were confident that the induction programme was instrumental in raising the performance of the NQTs (Spuhler and Zetler, 1995a).

Although few details about teacher performance are reported in the study by Totterdell et al. (2002a), there is a rider which addresses this issue, stating that, since the statutory arrangements had been in place for a very short time (two years), it was too soon to state clearly whether or not teacher performance would improve after the induction year, but that this improvement was expected by head teachers and induction tutors (subsequently confirmed by Ofsted inspectors - see Thornton, 2003, and Miliband, 2003).

Stallion (1988) researched what, if any, differences in NQTs performance and classroom management there would be after induction training for beginning teachers and mentors. She found that there had been little research in this area. Moreover, induction was also ad hoc in delivery. In assessing the effects of classroom management intervention training and mentoring on the inductee teachers' classroom management behaviours, no significant differences were found in inductees with respect to instructional management, rules and procedures, meeting student concerns, managing pupil behaviours and student misbehaviours. No statistically significant differences were found in their pupils and students in terms of the percentage observed displaying 'definitely on task' and 'probably on task' behaviours. However, significant differences were found on student engagement ratings for off-task behaviours. Induction-trained teachers occasioned fewer off-task behaviours in students (p.26).

The overall view from these studies of the effect of induction practices on teacher performance is positive; induction aids confidence in NQTs; their classroom practice in terms of motivating and grading their students/pupils is enhanced; and they are able to depersonalise classroom problems more with tutor support and make faster progress in competently executing teaching tasks with induction than without it.

#### **4.4.3 Professional learning**

All six studies address the professional learning that was gained through induction or mentoring, providing evidence that induction or mentoring was welcomed and valued by NQTs. Emotional support is the overall requirement stated as an important need by NQTs and observed to be needed by induction tutors or mentors; this is noted by Houston et al. (1990a), the NYC Board of Education (1993), Spuhler

and Zetler (1995a), Totterdell et al. (2002a), and Whitaker (2000a).

Discussion between the NQTs and their induction tutors about problems in the classroom, and how to find adequate solutions to them, is said to have been valued by NQTs and enabled them to move away from internalising the problems to a broader understanding of classroom culture. This is highlighted in one study, which states that over the year of induction, 'mentees shifted from a preoccupation with self-concerns towards a greater focus on task and impact goals' (Spuhler and Zetler, 1995a, p 25). For professional teacher growth, the authors found that, in year 2, growth reached expected levels; similar results were found for year 3 although 'growth' was defined in terms of direction and not in magnitude (p 27). Spuhler and Zetler (1995a) provides data to show that 91% of mentors used in this study are regarded as either successful or very successful and that, in self-assessment tests, their NQTs felt that, without exception, they themselves had succeeded well in their professional learning.

Other aspects of professional learning through induction are described in Houston et al. (1990a), in Study 10. The surveys with NQTs found that they thought most help was received from induction tutors for systems information (that is, school resources and organisation), with instructional information and emotional support ranked in second and third places respectively (p 129). Also, Totterdell et al. (2002a) states that more effective induction occurs when support for NQTs is recognised as valuable to all school staff and becomes whole school policy, to ensure NQTs successfully negotiate features of contextual school setting and are socialised into their new working environment.

Other issues which are said to affect professional learning positively are the following:

1. time for induction
2. matching pairs of induction tutors with NQTs

#### *Time for induction*

Time for induction or mentoring was an issue reported in three of the studies. Houston et al. (1990a) concluded that induction tutors stressed that they needed more time to work with their NQTs to offer more specific help to them and to observe them more in the classroom context. The New York Board of Education (1993) stated in their conclusions that funding and cover should be allowed for mentors to attend induction training sessions. The report by Totterdell et al. (2002a) was consistent with this. The research team found that induction provision nationally (UK) is inconsistent and recommends that the 10% reduction in teaching timetable for NQTs is extended to head teachers and other senior staff for induction tutoring. Totterdell et al. (2002a) found in samples used that induction

is more effective where a reduced timetable is provided. They also found in four other teaching conditions (pp iv-v), a reduced timetable is more urgent:

- in small schools in order to enhance teamwork
- where the headteacher is the induction tutor
- where pupils' behaviour is challenging;
- where there is a shortage of supply cover to allow induction time

#### *Matching pairs of induction tutors with NQTs*

The benefit of matching pairs of tutors with NQTs is reported in Houston et al. (1990a), NYC Board of Education (1993), Stallion (1988), Totterdell et al. (2002a) and Whitaker (2000a). These reports indicated that professional learning and progress was more effective with matching pairs of NQTs and induction tutors/mentors. Houston et al. (1990a) stated in Study 5 that NQTs preferred induction tutors with the matching subject and at the same age phase/grade experience. Houston et al. (1990a) found that the NQTs who experienced induction with these attributes felt more confident about their tutoring. The tutors in the study by Houston et al. (1990a) coincided with this view; they felt they would have been more effective if they had been better matched to their NQTs. This criterion is a recommendation of the author.

Stallion's study (1988) focused strongly on matched pairs of trained and untrained mentors and NQTs. She found significant differences in the results of meetings between the three groups of NQTs and mentors used in her survey; the NQTs and mentors that had trained together in induction practices were more likely to discuss problems more frequently than those who had not trained together. This, she claimed, helped NQT confidence. She also found that mentors are vital to transferring the professional knowledge base on a one-to-one basis (p 31) However, other results in her study did not show significant differences in pupils' engagement or in classroom management as a result of tutors and NQTs training together (Stallion, 1988).

As an addition to the evidence of professional learning in NQTs, Totterdell et al. (2002a) found that observing mentors' teaching was as productive as well as a cost-effective method of NQT induction; by inference, this practice requires a matching in subject specialism between induction tutors and NQTs. Whitaker (2000a, p 558), whose study focuses on special needs education and induction, found that NQTs rated mentor knowledge and, more significantly, special needs experience as important mentor characteristics for effective induction. Moreover, she claims in her study that personal characteristics were found to be more important than professional characteristics and the time spent with NQTs is very important, as is informal

contact. Of the mentors used in this study, 46% were not specialist special education teachers; the NQTs' views reflected some of the principal factors in mentoring. They stated that they would prefer that mentors and special education NQTs should be carefully matched; that special education mentors are preferred by the NQTs; and that same disabilities mentors would be ideal to match the NQTs. They added that mentoring for teaching styles was not so essential and that gender of the mentor was not important.

Overall evidence from these studies found that emotional support, information about school organisation, whole school recognition of the value of NQT induction, time allocated for NQT induction and appropriate matching of induction tutor with NQT are important factors for effective induction.

#### 4.4.4 Retention

The problem of NQT attrition rates during or after the first year of teaching is noted in Houston et al. (1990a), Spuhler and Zetler (1995a) and Whitaker (2000a). Totterdell et al. (2002a) and Stallion (1988) were keyworded 'teacher retention' but not utilised in the synthesis. The findings of Totterdell et al. (2002a) were taken from the early stages of a project and hence could make few claims cognisant to this present synthesis, although in a later paper the team (Totterdell et al., 2003) do take up some issues with implications for retention. The study by Stallion (1988) occurred before the trends in US teacher supply identified by, among others, Ingersoll (1999) and Darling Hammond (2000), had really taken hold. These have subsequently been analysed for relevance to the English context by Rustique-Forrester and Haselkorn (2002), who highlight the extent to which these trends have impacted since 1990 and are a consequence of a combination of the dramatic rise in public school enrolments, the aging demographic profile of the teaching profession and high attrition rates especially in impoverished school districts (Rustique-Forrester and Haselkorn, 2002, pp 82-83).

While aware of the relevance of induction to teacher recruitment and retention, Stallion (1988) does not extrapolate from findings concerning teacher professional learning and development to draw out implications for teacher retention. In Study 5 of the report by Houston et al. (1990a), the survey carried out of NQTs shows that 73% who stated that they wanted to remain in teaching attributed this decision to the support that they had received. Spuhler and Zetler (1995a) compared retention rates after the induction year with other local district evaluations and found that the sample used to trial the induction programme produced a higher retention level than in previous years. The report stated that there was a dramatic difference in results between the NQTs who had been mentored and the control group who had not, for all three years of the study (Spuhler and Zetler, 1995a). Whitaker (2000a, p 558) found evidence

of a relationship between special education NQTs remaining in teaching and their induction year. Summarising the principal factors in mentoring elicited the following details on retention: 1% left in the first year, 8% planned to leave in the first year, 27% planned to leave in five years, 64% planned to stay, and a small number (N=5) were unsure.

Evidence to show the relationship between NQT induction and NQT retention is shown here to be sound and reliable. Out of the six studies in this synthesis, three studies show that there is correlation between retaining NQTs in the profession and their induction experiences (Houston et al., 1990a; Spuhler and Zetler, 1995a; Whitaker, 2000a).

#### 4.4.5 Summary

For all aspects of the review question, there is cumulative evidence from the studies in the in-depth review to show that induction has a positive effect on teacher performance, professional learning and retention of NQTs when accompanied by the following conditions:

- regular meetings (not specified) between NQTs and induction tutors
- adequate time for both NQTs and induction tutors for induction tutoring
- appropriate matching of NQT and tutor in terms of subject specialism and teaching age phase/grade.

However, the nature of this evidence does not allow it to be conclusive in the strict empirical or logical sense. This is owing to the fact that most of the research is non-controlled (that is, it is mostly classifiable as 'naturally occurring') and therefore it is difficult to be sure that the observed co-occurrence of mentoring and positive aspects of induction is specifically due to the induction being available. In the context of other related research on mentoring and the professional development of student teachers in initial teacher training (see, for example, Bullough et al., 2003; Edwards and Collison, 1996; Furlong and Maynard, 1995; Kerry and Mayes, 1995; McIntyre and Hagger, 1996; Tomlinson, 1995), this nevertheless remains the most plausible explanation.

### 4.5 In-depth review: quality-assurance results

Data extraction was carried out by six reviewers who independently undertook data-extraction and WoE assessments for each study. Reconciliations of disagreements between reviewers were carried out by telephone or face to face meetings to ensure a common understanding of the findings from the studies. Where reviewers disagreed on a particular focus or finding, a compromised agreement was reached. For example, where one reviewer stated that a finding was 'implicit' and another found it to be 'explicit', and where evidence was available, a



change was made on the final uploaded copy of the data extraction. Where a more detailed description of findings was available from a data extraction, these details were used in the final uploaded copies.

A potential conflict of interest was recognised in relation to the report of the study by Totterdell et al. (2002a: Evaluation of the effectiveness of the statutory arrangements for the induction of newly qualified teachers), which had been reviewed by one of the authors of the report (Bubb), along with an independent reviewer. To ensure quality assurance a third independent reviewer was involved in the initial reconciliation and subsequently Professor Diana Elbourne undertook to data extract the report; further amendments were then agreed during reconciliation with Bubb before the study details were uploaded along with the nine other reports of studies. Quality assurance was also carried out by the EPPI-Centre link person, Carole Torgerson, who carried out two data extractions.

#### 4.6 Nature of user involvement in the review and its impact

In terms of the focus of the review, the Review Group met and had significant involvement in developing the key research question, the keywording strategy, and inclusion and exclusion criteria for the map, and the inclusion criteria for the in-depth review.

In addition, the Advisory Group assisted in defining the scope of the review by listing the main audiences for the dissemination of the review as follows:

- people responsible for helping teachers develop their practices: for example, senior school and middle leaders, induction coaches and personal development tutors, other teaching staff and educational developers
- policy-makers at national level: for example, DfES, TDA, National College for School Leadership (NCSL), UCET Committees, national associations of schools, teacher unions and associations, senior management teams of HE providers and training schools, LEAs, etc.
- educational research community: for example, AERA Special Interest Group on Teacher Induction, BERA, Current Educational Research in the United Kingdom (CERUK), National Educational Research Forum (NERF), Kevan Bleach, Ian Stronach, Neil Simco, Les Tickle, UCET Research Committee, etc.
- academic teachers in higher education: teacher educators in the UK, and global contacts in Australia, China, Ireland, New Zealand, South Africa and the USA
- funding bodies: for example, TDA Induction Co-ordinating network

- teaching publications: for example, *Times Educational Supplement* and *Professional Development Today*.

#### 4.7 Summary of results of synthesis

The ten studies (N=10) used in the in-depth review comprised one 'evaluation of researcher manipulated interventions', one 'exploration of relationships study', and eight 'evaluations of naturally occurring interventions'. They were all produced in English and published or found to be in the public domain (i.e. on a search engine or ERIC). One study, by Stallion, was written in 1988. Five studies were written between 1990 and 1999, and all the others (N=4) were written in the 21st century. Two of the studies are from the UK (Bubb, 2000; Totterdell et al., 2002a) and the other eight are from the USA. One study is a PhD thesis (Boyer, 1999).

Ten studies underwent in-depth review. For WoE A, three studies achieved 'high' judgments: Houston et al. (1990a), Stallion (1988) and Whitaker (2000a). These same three studies were judged as 'high' for WoE B. For WoE C, four studies were judged to be high: Houston et al. (1990a), Stallion (1988), Spuhler and Zetler (1995a), and Totterdell et al. (2002a). For WoE D (denoting overall trustworthiness, design and relevance to review question), two studies achieved high judgments; these were Houston et al. (1990a) and Stallion (1988).

Another four studies achieved medium or higher judgments: New York City Board of Education (1993), Spuhler and Zetler (1995a), Totterdell et al. (2002a), and Whitaker (2000a). Three studies were judged overall to be medium to low: Boyer (1999), Bubb (2000) and Moor (1990). One study was judged to be low to medium: Schalock et al. (2002a).

The synthesis incorporates six studies from the in-depth review that were given medium or higher ratings for an aggregate of relevance, appropriate study design and reliability for the review question: Houston et al. (1990a, parts 5 and 10), New York Board of Education (1993), Stallion (1988), Spuhler and Zetler (1995a), Totterdell et al. (2002a), and Whitaker (2000a).

Three of the six studies show some evidence of an improvement in teacher performance as a consequence of NQT induction: Houston et al. (1990a), Spuhler and Zetler (1995a), and Totterdell et al. (2002a).

Overall, these studies indicate that the effect of induction practices on teacher performance is positive: induction aids confidence in NQTs, enhances their classroom practice in terms of motivating and grading their students/pupils, and they are enabled to depersonalise classroom problems more and make faster progress in competently executing teaching tasks. All six studies address professional learning gained through

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induction or mentoring, and provide evidence that induction or mentoring was welcomed and valued by NQTs. NQTs need for emotional support provided by their mentors and others featured prominently in the studies, which also indicated that information about school organisation, whole school recognition of the value of NQT induction, time allocated for NQT induction, and appropriate matching of induction tutor with NQT are important factors for effective induction.

Three of the studies note the problem of NQT attrition rates during or after the first year of teaching and provide compelling evidence to show the positive relationship between NQT induction and NQT retention (Houston et al., 1990a; Spuhler and Zetler, 1995a; Whitaker, 2000a).

#### 4.8 Additional observations and comments

Summaries of all studies reviewed in depth (N=10) are provided in Appendix 4.1.

All aims and contexts of studies in this in-depth review are broadly similar. Four studies were given a high rate in terms of particular relevance to the review question (WoE C):

- Houston et al. (1990a)
- Stallion (1988)
- Spuhler and Zetler (1995a)
- Totterdell et al. (2002a)

However, it was noted that only two of these studies can be said to be ideal in terms of trustworthiness and design (WoE A) as well as overall quality and relevance to the review question (WoE D): Houston et al. (1990a) and Stallion (1988).

- Houston et al. (1990a) provided very detailed results in relation to the work of mentors inducting NQTs; additionally, reliability and validity measures for these studies were present and thorough. This study addressed most adequately the revised review question through reference to BTs classroom learning and performance.

- Stallion (1988) found very clear, reliable and testable results, and reported the effects of induction and classroom performance in interesting and useful detail, including ratings for students and their involvement with the BTs. If it has a weakness, it lies in the age of the study (published in 1988), although the variables described in the study are still relevant in spite of being over 15 years old.

Moore's (1990) study, while only weighted medium-low overall (WoE D), also suggested that BTs valued induction but it did not provide relevant data for many of the outcomes for teacher performance, its main focus being on effective mentoring.

Totterdell et al. (2002a), weighted medium overall (WoE D), states that with the support and agreement of head teachers, NQT induction has indisputable learning effects on NQT performance and retention. The survey carried out by Bubb (2000), while only weighted medium-low overall (WoE D) largely because of its restricted generalisability since it was undertaken in only one London borough, nevertheless provided a small amount of useful data, albeit of too limited a purview to be included in the synthesis.

Whitaker's (2000a) research also provides very useful data for retention, basing her research on criteria that encouraged retention, which is the relationship with other staff, most importantly the mentor, and job satisfaction.

The study by Schalock et al. (2002a) received the lowest overall quality weighting and was largely inconclusive in its findings, so it is not included in the synthesis. Its authors hypothesise that the expected relationship between the type and amount of mentoring and the classroom performance of beginning teachers may not emerge until the second year of teaching. Inclusion of its third year data and additional contextual variables may help the team to clarify the evidence and the study will be reviewed again when it publishes its full findings.

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## CHAPTER FIVE

# Implications

### 5.1 Strengths and weaknesses

The strengths of this review are as follows:

1. The research reveals the number of studies (quantity) and quality of the research that has been carried out on the effects of NQT induction on NQT learning, performance and retention (see review question).
2. The research examined in detail showed that NQT induction practices of the early 21st century are showing similar inadequacies to those of 10 or 20 years ago.
3. It indicates that there are some common factors involved in the successful induction of new teachers.
4. The search identified relevant research published in English, whether or not it originated in non-English speaking countries, and the bibliographic information on these is extensive.
5. The search found that even reports of research carried out more than 10 years of age can be relevant to the current research agenda.
6. The research highlighted the need for more reliable and testable research in this area as well as the need for studies to be better connected with the overall research corpus in the field, so as to yield potentially convergent findings which add to the knowledge base on induction and are cumulative in their conclusions.
7. As the co-author of one study (which was included in the synthesis) is also the author of this review, there is a derivative strength in terms of expertise and in-depth knowledge of the research and the issues involved in the review topic.

The overall strength of the review can best be captured, perhaps, by highlighting its potential

to reveal the state of our knowledge about the principles, processes and peculiarities of induction policy interventions and measures. The status of the research knowledge on the links between induction as experienced by new teachers and its effects as defined by the research question is more tenuous. Nevertheless, there are implications for policy, research and practice that can be derived from the review, albeit somewhat provisionally.

The limitations of this review are as follows:

1. The review was subject to the inevitable constraint of time and funding for more comprehensive and wider searching.
2. There was a lack of thorough, valid, recent and reliable research on the effects of NQT induction in relation to the in-depth criteria selected.
3. Difficulties arose in locating more extensive research links between NQT induction and not only NQT learning, but also its effects on NQT retention.
4. It was difficult to find research links between NQT induction and not only NQT learning but also its effects on student/pupil learning outcomes.
5. The evidence does not allow the study to be conclusive in the strict empirical or logical sense because most of the research reviewed is non-controlled.
6. As the co-author of one study (which was included in the synthesis) is also the author of this review, there is a potential weakness in terms of his having a prior view about the nature of induction and the causal relationship that may obtain between it, NQT professional learning and performance, and their impact on pupil and student outcomes.

In effect, much research in this area is either

small scale, self-reflective, unconnected and designed to guide programme improvement, or it is methodologically unselfconscious evaluation executed within the context of trying to secure ongoing funding. It is also very difficult to draw conclusions from reviewing the literature because empirical work involving quantitative studies is sufficiently different in design and divergent in terms of instruments, variables, interventions and aims to make the findings hard to pull together or corroborate across studies. Qualitative studies, on the other hand, tend to be induction strategy or programme specific, involve self-selecting participants, have little or no connection to similar work and take place without longitudinal follow through. The upshot is that 'while self-reflective research can helpfully guide programme improvement [and inform the direction and development of a given local strategy], unconnected small studies do not necessarily produce convergent findings' (Sleeter, 1994, p 1, parenthesis added).

In summary, there are a number of general statements that can be made in relation to the review question: 'What are the effects of induction on newly qualified teachers in relation to their professional practice?'. Some of these indicate areas of policy, practice and research pertaining to induction where it is appropriate to proffer advice, advocate for a position and/or reasonably make the case for ongoing or additional resources being made available. In other words, while far from being exhaustive, evidence is accumulating sufficiently to build up research knowledge within the 'policy field' of induction that can inform the policy advising and policy-making community. There are also a number of areas within the purview of induction (as defined in section 1.4 of this review), where the accumulation of research knowledge is sufficiently robust to be used by communities of practice as an evidence base from which to seek insights into one or other of the following options:

- either, how best to go about revising current practice in order to bring about improvement;
- or, how one might fruitfully build on it to consolidate and enhance induction opportunities.

However, there are also a number of areas that remain elusive to research-based enquiry findings. In particular, it is much easier to identify deficiencies in induction policy, research and practice than it is to identify areas of educational quality or excellence even in relation to intended outcomes. This in part stems from difficulties inherent in satisfactorily underpinning normative judgements about quality (see Burbules, 2004) and in part from difficulties in gleaning sufficient evidence from research that is relatively unsystematic and interventions that are neither connected with, nor necessarily consistent with, one another. We still lack anything like a comprehensive picture of the phenomena associated with induction but what we do have is a portrait that is becoming more transparent and reliable as

we continue to distil theoretical fragments, potted insights, helpful vignettes and tentative comparisons that may be significant in relation to measurable outcomes.

There are, moreover, wider methodological limitations that need to be addressed because there are good reasons to think that some of the areas currently resistant to the formulation of research-based evidence have the potential to yield insights into important questions. If this is to happen, the ongoing research agenda needs to address the gaps identifiable from the reports of comprehensive systematic reviews of research literature and such reviews, in turn, need in future to be methodologically finessed to exhibit greater fitness for educational contexts and purposes. As Burbules - reframing a critical insight from *School and Society* (Dewey, 1899/1980, p 11) into the relationship between means and ends - rightly reminds us, 'Activities do not simply aim at goals; they partly constitute and reconstitute them. Aims are not conceptually or practically separable from activities' (Burbules, 2004, p. 7). Dewey's insight was to perceive the extent to which, as we engage in activities, we are already anticipating and rethinking the effects we expect them to have, we continually modify them in the light of their expected purposes and we continually modify these purposes as we see where we are actually going in the light of progress and results thus far.

To be fruitful, review questions need to be identified that move beyond a concern with foregrounding validity of knowledge per se and develop lines of enquiry based on a critical openness to the weight and quality of evidence. This can only be derived from discerning the full meaning of experience, rather than merely assuming some version of the Kantian notion that the human mind necessarily imposes its own constructs and categories of interpretation upon evidence or facts. While the observing consciousness is no passivity that can be ignored but is an active causal agent in the world, it is imperative that researchers and those who critically review their research engage in the exercise of re-imagining science - particularly social science - as a moral rather than merely rational enterprise precisely because the perception and conception of the intellect is itself conditioned by the moral character of the 'whole person' involved. While interpretation includes gaining knowledge, it is in the end an ethical activity, for it is about cultivating the appropriate disposition to learn from others while accounting 'parsimoniously' for the truth one suspects lies behind the question(s) posed and the answers posited. Epistemology - including the epistemology underpinning systematic literature reviews - is an inherently moral and not merely rational issue (see Bubb et al., 2005).

## 5.2 Implications

In an earlier pilot study (Totterdell et al., 2004), a growing consensus was identified around the



ingredients for successful induction programmes and in support of the claim that induction improves teaching effectiveness and promotes new teachers' sense of well being. It was noted that there were also a number of studies that supported the claim that induction improves short-term retention and the evidence base for this appeared to be mounting (p 39). The wider survey of the field of induction-related work and the associated in-depth review of additional studies on induction undertaken in this systematic literature review provides considerable support for these earlier claims. Furthermore, they add another layer of findings which extend an appreciation of the complex relation that obtains between elements of the induction process and other contextual factors, such as the texture of events surrounding induction - the folds, layers and materials that constituted the respective experiences of the parties involved - and therefore must be factored into considerations of policy, research and practice.

This section of the report draws out some implications for policy, practice and research by way of the criterion of coherence. The principle of intelligibility it employs relies on making 'a structured supposition' about the relation that obtains between relative continuities and discontinuities that is not the same as science's sufficient and necessary links. This reflects the fact that induction 'events' are contingent and underdetermined (see Oakeshott, 1933).

### 5.2.1 Policy

In terms of the policy cycle - formulation, mediation, implementation, evaluation, reform (or 'tinkering') and ongoing monitoring of the outworking of policy interventions - a number of issues emerge concerning the impact of policy decisions on the effects of induction in relation to professional practice. These reflect the contours of specific programmes of induction and the texture of induction-related experiences as well as the overall thrust of induction policy-drivers:

1. The provision for NQT induction in the UK, as in the USA, is not uniform, with both contextual and componential variables operating within different countries and states. While these variables are not as far reaching or as significant in the UK as they are in the USA, some raise the interesting question of how much cross-fertilisation exists and whether it is desirable. Generally speaking - based on the evidence from citations and references in the studies considered - there is some evidence that policy-makers are aware of transnational circulations and flows of policy trends in relation to induction in the English-speaking world, although there is little evidence to suggest policy benchmarking, borrowing or migration in relation to specific programmes of induction. What is essentially missing in framing policy for teacher induction is any sense of globally inflected discernment with regard to policy options that is informed by international comparisons that draw on a synthesis of available research evidence including feedback from evaluative practices. For example, given the assumptions that underpin induction arrangements and the broad import of the evaluations of induction stemming from both sides of the Atlantic, it is unclear why policy-makers do not seem to have grasped adequately the need to develop greater coherence between initial training, induction and continuing professional development, or to have realised that induction is potentially an important link or lynchpin between initial and continuing professional development. In particular, the induction year or its equivalent needs to have more rigour, meaning and benefit for the new teacher if satisfaction with their choice of teaching as a career is to be sustained and they are to rise above immediate and pressing demands of the 'lived' experience of beginning teaching to persist in the profession (see Liu et al., 2000; Organisation for Economic Cooperation and Development, 2005; Ramsey, 2000).
2. To the extent that the studies provide some indicative evidence of variation in the quality of provision, this raises questions concerning: (i) adequate means of monitoring policy implementation, (ii) effective means of securing accountability for the use of resources, (iii) checks for compliance with programme requirements, and (iv) the capacity of the system to strengthen provision where there is evidence of shortcomings.
3. Concepts of mentoring, the development of mentor/inductor roles and their practice in support of NQTs (or their equivalent) also vary, often reflecting notions of how new teachers can be supported in their professional development that draw to varying degrees on factors such as custom and practice, generic theories (for example, cognitive coaching), guidelines in programme literature, and principles or procedures developed through in-service training. Rarely do programmes of induction spawn programme-specific notions of the role of mentor/inductor but, where they do, evaluation of the programme usually builds this specificity into the criteria by which its success is measured or established.
4. The 'context' section of studies on induction suggest that, on the whole, policy implementation in the area of induction usually draws eclectically on established sources of insight into what might represent best practice so long as this resonates with principles that support policy-making at all levels: for example, choice, voice, customisation, specialisation, communication and new relationships or combinations of functions. There is little evidence of hypothesis testing, programmatic innovation or policy renewal in the light of feedback, but this may be more a reflection of the risk aversion inherent within policy cycles predicated on maximising electorate-

winning outcomes than any systematic policy decision.

5. Recognition that NQTs need more release time, monitoring and support during their first year pervades the research evidence but does not invariably translate into adequate provision at the level of policy implementation. This can sometimes be attributed to inadequate resource but can in other cases be a feature of poor academic leadership or inadequate oversight on behalf of educational managers or supervisors.
6. The research on policy implementation, monitoring and evaluation frequently highlights issues of the amount of time given to supporting NQTs (or the frequency of contact between them and their mentors), the extent to which they receive specific and in-depth guidance, the level of matching between inductor and inductee (especially in relation to subject, age-phase or educational specialism), and the frequency and focus of observations as being critical to developing the professional practitioner capacity of NQTs. However, policy-makers, by and large, do not engage with these matters, leaving such particulars entirely to the provenance of practitioners. This is unfortunate because the realisation of these critical components, like much good practice, depends on their being properly costed in advance. This is not only so that the necessary resource is made available, but also so that the hard decisions involved in pulling highly experienced teachers from classroom teaching in order to facilitate high levels of classroom expertise on behalf of their new colleagues are faced up to and a persuasive case is made to parents and other stakeholders that this is being done in the longer term interest of establishing a quality teaching base that will positively impact on students learning.

Finally, on the policy front, the research reviewed provides an evidence-based ethically legitimating rationale - if not full cognitive support - for policy-makers to consider whether one may hypothesise, *mutatis mutandis*, that there is some likelihood that the import of the policy strands identified in points 2, 3, 5 and 6 holds true the more so in the circumstances of challenging hard-to-staff schools. If some verification is forthcoming for such a hypothesis (see, *inter alia*, Grant, 2004; Scafidi et al., 2002; Strong, 2005; Wong, 2004), then policy advisors would do well to consider whether prioritising resource in support of schools that serve children from historically underserved communities and yet simultaneously often attract NQTs from under-represented ones, should be considered. This may be a form of intervention that that could instil greater stability and constancy into the schooling system by widening participation among the vanguard of teachers committed to social inclusion and the transformation of educational opportunities and standards that affect disadvantaged children.

### 5.2.2 Practice

The two documents reviewed in the earlier pilot study (Totterdell et al., 2004) presented practical suggestions for senior management, teacher mentors and inductors regarding new teachers' professional support and training, and, equally importantly, how to avoid attrition among those entering the profession (Arends and Winitzky, 1999; Youngs, 2002). The suggestions included the following:

1. Inductees should be relieved of the most challenging teaching work and given time to attend courses.
2. Trained mentors were considered to be good agents for aiding new teachers through their first, and maybe subsequent, years of teaching.
3. A sense of the value of less formal as well as formal procedures in the induction process should be engendered.
4. Induction programmes should be evaluated over the long term, to capture information on teacher performance, retention and morale of new teachers.
5. The advantages of having smaller classes should be exploited more assiduously in relation to beginning teachers or work overload will not really be eased through induction programmes.

The present study appears to offer support for some of these, most significantly in highlighting perceptions that NQTs need more release time, monitoring and support during their first year. One finding was that experienced teachers employed as mentors within induction schemes believe the major problems of new teachers are managing the classroom, coping with the amount of paperwork, managing their teaching time, and lack of (personal non-contact) time. These mentors believed they were of most assistance in solving problems related to managing the classroom; they believed they assisted beginning teachers most with emotional support, systems information (procedures, policies and expectations), and instructional information (classroom management, instructional skills, materials, supplies and equipment). They were convinced that knowing the local resources helps new and beginning teachers in their classroom. The implication of this would seem to be clear: effective mentors are critically important to the success of new teachers in their induction year and the support infrastructure they provide is integral to the successful professional practice of those entering the profession.

Mentors are vital to transferring the requisite knowledge base on a one-to-one basis. Experienced teachers involved in a mentoring role frequently indicated they could have been of more assistance had they been given more time to work with their new teachers, provided more specific and in-depth

guidance, been better matched to them in terms of specialist knowledge, skills and empathy, and observed them more. A particular emphasis was placed on mentors and special education NQTs being carefully matched because this is preferable both from the perspective of special education NQTs and from the perspective of students with special educational needs. Mentors were most useful to beginning teachers before the school day started and personal interaction with other teachers was very useful to teacher learning generally. Conferences between trained mentors and beginning teachers who trained together discussed their experiences more often. Such conferences provided a milieu in which open discussion of teaching and learning was supported and significant insights into classroom interactions were shared. Complementing this, the importance was emphasised of there being proper time for evaluations of new teachers' professional practice and of such evaluations being constructive and not overly critical.

It is noteworthy that there is now greater emphasis being placed on tailoring induction so that the system fits the individual, rather than the individual has to fit the system. Nevertheless, personalisation of induction has yet to surface as a major consideration in the research beyond a strong emphasis on the need for careful matching of mentors and new teachers. Indeed, there is little evidence from the studies reviewed in depth (the exception being Totterdell et al., 2002a, and a subsequent publication based in part on that study, Bubb et al., 2005) that the induction process has really moved much beyond the purview of the classroom, with little awareness shown by researchers that teachers as agents experience their work holistically as interpenetrating dimensions rather than as dichotomised levels of educational reality. As well as focusing on their performance in classrooms, new teachers must learn to operate through a relational and participatory interaction with life in schools and be subsidiarily aware of social interactions in the wider community. The interrelatedness of the 'achievement for all', 'wellbeing' and 'community' agendas has yet to be reflected in a broader induction agenda.

The practicalities of induction need to engage in a thoroughgoing way with the more complex model of school-community relationships and the more holistic vision of schooling that are now emerging as schools wrestle with the need to make a more substantial contribution to the full education of all pupils and to have regard to all aspects of pupil's development, and not simply their academic achievement. Put another way, while there is growing evidence that the initial training or pre-service preparation of beginning teachers is being supported and extended by their induction experience in terms of enhanced practitioner capacity and more productive pedagogy within classrooms, there is little evidence that either is preparing them for the broader agenda of schools or for the re-modelling of the education workforce

now under way. In this respect, induction training, support and resource are lagging well behind (new) policy.

One inference to be drawn from this is the danger of complacency. The general perception that induction is helping to improve teacher quality may be misleading if induction is construed too narrowly. The other main impression to emerge from reviewing the literature is that a positive induction experience increased satisfaction levels substantially and retention is crucially dependent on new teacher satisfaction. Unless induction prepares new teachers for the tensions inherent between the 'standards' (quality) and 'community' (care) agendas and provides guidance on the practicalities of complex school-area interactions, new teachers will inevitably struggle to secure their professional footing. As schools are invited to engage with a wider role and teachers increasingly interact with numerous non-teachers, satisfaction levels are likely to diminish unless new teachers are equipped to engage constructively with other professionals and concerned adults, and to negotiate a fresh understanding of their role as leaders of learning and co-determinants of students' reality within a wider adaptive education programme with an integral team approach to personalised caring-teaching-and-learning.

In a system too readily obsessed by targets and productive of paper, new recruits must not be left empty of direction and lost for a purpose; they need to be inculcated into the sum and commonality of what it all means. Based on relevant findings from this study, the most effective way to ensure that induction continues to impact positively on teacher motivation, effectiveness and retention as schools seek to integrate into wider societal partnerships would seem to be to focus on whole school-as-learning-community approaches to supporting NQTs.

### 5.2.3 Research

As indicated in the pilot study, 'Research continues to be needed into induction, for although there is a fair amount', as Humphrey and his colleagues point out, 'it does not allow us to map specific outcomes to specific programme models or components or directly to assess impacts on students' (Totterdell et al., 2004, citing Humphrey et al., 2000, p 121). To this can now be added the observation that the research literature reviewed by the team merely underlines the need for well-designed studies of the effects of induction and mentoring. These might focus explicitly on the development of teaching performance, on teacher retention and longer-term commitment to teaching or, more difficult yet, on the potential effects on student achievement. We are not yet really able to determine the cumulative impact of induction on teacher retention, on sustainable improvements in teacher quality, or on enhanced representation of social diversity, although some promising lines of enquiry are opening up as the field attracts more interest from researchers



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(see Strong, 2005).

One particular recommendation we made, albeit from an ideal perspective, was that researchers should pursue larger scale, more empirically oriented studies alongside smaller in-depth ones. Given that research-based evidence is deemed important for the policy cycle and research that does not make comparisons in relationship to measurable outcomes often tends to be dismissed, piloting new initiatives is vital to allow for randomised controlled trials, random assignment in programme evaluation or the like (see Myers and Dynarski, 2003).

It is therefore gratifying to note that the US Department of Education has sponsored a five-year large scale randomised field trial to carry out a rigorous evaluation of teacher induction programmes. This project, which is being conducted with almost 1,000 teachers in 400 schools in 17 districts around the United States, will focus on induction in elementary schools (kindergarten to grade 6) and is examining two high-intensity teacher induction models produced by Educational Testing Service and New Teacher Center at the University of California, Santa Cruz, respectively. The periodic reports anticipated after each data-collection point during this four-year programme constitute potentially useful material to be included in any update of this systematic literature review. Moreover, the outcomes measured by the study have the potential to make a seminal contribution to the field of induction research and will clearly provide important evidence of the reliability or otherwise of the broad pattern of findings reported thus far (see <http://www.mathematica-mpr.com/education/teachinduc.asp>).

Other areas identified by the earlier pilot study (Totterdell et al., 2004, p 40) in which research still needs to be carried out included:

1. mentor selection, training and support
2. the effect of increased pay and improved conditions resulting from local recruitment initiatives on retention rates
3. the effect of the roles played by headteacher/principal leadership, senior local authority advisors and trained/professionally prepared mentors on the quality of new teacher induction
4. the effect of the district/regional induction policy on attrition rates

To this might be added two areas in which there appears to be a paucity of published work:

5. induction of new teachers into early years settings
6. induction and retention of black and minority ethnic teachers

The present study has uncovered more research in relation to the first and third of these areas and has shed some light on what researchers have uncovered about the dynamics of mentoring and its efficacy. The main implication for research lies in the prima facie evidence that the effectiveness of mentoring (whether by an induction tutor or an experienced teacher acting as new teacher advisor) in relation to new teachers professional practice, performance, learning and retention may be a correlate of the extent to which the induction programme is age-phase/specialist specific, structured and represents a high-intensity model of support utilising mentors that have not merely been 'prepared' (in the sense of being given relevant documentation, a brief and some sort of agenda), but carefully selected, trained, matched with their inductee(s) and given adequate time-release from other duties for this role. A number of current studies at the New Teacher Center, Santa Cruz are tracking a range of variables in relation to aspects of mentoring new teachers, including online E-mentoring networks designed to promote professional development through dialogue. One of these studies is an evaluation design of a mentoring programme for new teachers in Memphis City schools in which pairs of new teachers are matched for age phase/grade level and school type and randomly assigned to either a mentored or non-mentored induction. The teachers are then followed for two years with a view to making comparisons between the two groups in relation to a range of outcomes, including retention, student achievement and the development of practical teaching performance (Sterbinsky and Strong, 2004).

Of the ten studies reviewed in-depth six reported on new teacher retention and the findings show that while the issue of retaining teachers remains central to the sustainable development of a high quality education service, retention is not invariably factored in as a key driver of induction policy (Boyer, 1999; Houston et al., 1990a, part 5s and 10; Spuhler and Zetler, 1995a; Stallion, 1988; Totterdell et al., 2002a; Whitaker, 2000a). This supports the findings of other studies that stress the critical contribution of induction to new teachers' developmental pathways. Unfortunately, research into mentoring new teachers does not adequately focus on its putative contribution to retention, whether in terms of input or outcomes. Merely training and employing teachers, in any field, does not guarantee their retention and this is an issue in induction that clearly needs further scrutiny.

One attempt to address these issues together with those identified in points 2, 3, and 4 above is underway in New York where the study reported in this review focusing on the New York Public Schools (New York City Board of Education, 1993) is now being followed up by further research. This research project will explore variables along a spectrum of the professional preparation and formation continuum for new teachers (including their induction). Its focus is 'Examining teacher preparation: does the pathway make a difference?'

and, while it only covers one school district, albeit the largest one in North America, it is likely to be indicative of major trends and issues in the initial training-induction continuum pertinent to challenging urban schooling contexts. One reason for this is the project's research model which takes cognisance of the fact that the attributes of teacher preparation and induction programmes cannot be examined in isolation from longstanding and well-defined characteristics of teacher labour markets. It recognises that there are significant differences in school-to-school and local-authority-to-local authority practices and working conditions which impact on the context of difficult-to-staff urban schools. The overall schematisation of these factors in the approach adopted by the project research team is potentially promising as a way forward for induction studies (Boyd et al., 2004).

Another research trajectory is underway, tracking participants in three major established urban teacher provider universities in the Australian states of New South Wales and Victoria, using the recently developed and validated FIT (factors influencing teaching) choice scale to determine the strength and of influence for a range of motivations from teaching career entrants (Richardson and Watt, 2006; Watt and Richardson, 2007). This three-phase study, based on a methodologically sophisticated, large scale and international longitudinal design, tracks the same participants, from their entry into teacher education, again at the point of graduation from their teacher education programme, and then two years following graduation. Phase three, which focuses on participants in their early years in the profession, with a particular focus on beginning teacher mentoring, teaching self-efficacy and professional commitment, levels of stress and burnout, and contextual school environment factors, promises to yield important insights into the impact of induction on participants' experience of the workplace circumstances of teaching and hence the perseverance of their perception of the reward structure the profession offers.

In terms of research agendas, further research synthesis is needed on all literature relating to induction, early professional development and retention. Emergent findings from longitudinal studies (see, for example, Hobson et al., 2006; Richardson and Watt, 2006) indicate that it may be fruitful to explore the relationship with the corpus of research evidence in ITT, particularly that connected with mentoring of trainees and models of beginning teachers' professional development. Moreover, feedback from policy officers suggests that the Review Group could take a further critical edge to the methodology applied to systematic review and synthesis by acknowledging the link to the ITT literature and explicitly engaging with the continuities and discontinuities between ITT and Induction.

Two other areas suggest themselves for particular attention. One is the under-researched issue of

diversity and inclusion in ITT and induction (see Basit and McNamara, 2004). The other focus should be on research that picks up on the remodelling of the teaching workforce and extended/community schools agendas and provides a critical appraisal of the induction needs of new teachers and other associated professionals working in an inherently multi-professional, functionally differentiated context of adaptive education and inter-agency cooperation.

This suggests that any future systematic review of research literature needs to try to capture incipient factors identified through evaluations of the emerging conditions and organisational reforms that are coming to characterise educational provision under the far-reaching influence of 'modernisation'. The fact that schools are increasingly professional learning and working environments in which not only students learn but also teachers, educational support staff and indeed, head teachers too, is one that needs to be perceived and given due emphasis through a research methodology that is more reflexive and adaptive to developments within schools that remain nascent, inchoate and fluid. In other words, to be truly 'systematic', research reviews need to tap into the distinctive forms of the emergent models of schooling and become in some sense participative in the common knowledge that will subsequently become elaborated through the processes of orthodox research. One way to achieve this, which may be of interest and utility for the policy, research and practitioner communities, would be to try to generate a systematic synthesis combining an analysis of the literature published in English, of all study types, with a survey of the 'grey research' accessible through targeted searches of products emanating from local authorities, government agencies and induction programme coordinators, etc.

The results of an updated 'standard' literature search could then be used as an interpretive framework through which to filter data solicited directly from sources of 'grey literature' derived from archives of local authorities, national and regional advisory bodies, and evaluations of induction programme. This would allow a more synergistic approach to learning from the available research data by identifying studies that have asked relevant questions; ongoing studies that are building on what already exists by stretching the parameters in some innovative way; and studies derived from a less formal research base that is indicative of the diverse approaches being adopted to address similar issues, but in different contexts.

Such a systematic synthesis should include a comprehensive bibliography on induction as well as several classifications of the literature in relation to the key emergent issues in order to mine the best ways of seeking methods to induct new teachers, sustain and improve their practice, and retain them in compulsory phase schools.



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It is proposed that a relevant research question might be as follows:

*What measures have been taken to support new teacher effectiveness and address the problem of new teacher attrition/retention in the light of evidence from induction and associated early professional development?*

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## CHAPTER SIX

# References

### 6.1 Studies included in map and synthesis

*Studies marked with an asterisk(\*) were included in the in-depth review.*

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## Appendix 1.1: Authorship of this report

This work is a report of a systematic review conducted by the Induction Review Group.

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- 52 What are the effects of the roles of mentors or inductors using induction programmes for newly qualified teachers (NQTs) on their professional practice, with special reference to teacher performance, professional learning and retention rates?

### **Review group**

Induction Review Group

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### **Conflict of interest**

A potential conflict of interests should be noted: Totterdell and Bubb are both authors (and co-author) of studies included within this review (see references for details). These two authors are part of the Review Group (RG) and also carried out data extractions. Totterdell carried out data extractions for the review, but not of his own study. Bubb carried out a data extraction for a study of which she was a co-author; the other reviewer was not an author and a reconciliation of data-extraction disagreements was conducted between the two reviewers. To address the possibility of any conflict of interests, Professor Diana Elbourne of the EPPI-Centre staff also carried out a data-extraction of the report by Totterdell et al. (2002a), reconciling differences with Bubb. The result of this reconciliation was uploaded onto the EPPI-CENTRE database as the RG data extraction.

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# Appendix 2.1: Inclusion and exclusion criteria

## ***Systematic map inclusion and exclusion criteria***

### *Summary inclusion criteria*

- Must be published or, if unpublished, in the public domain, between 1988 and 2003.
- Must focus on teacher induction for NQTs or beginning teachers, and describe induction in terms of its effects on NQT teaching practice, learning, expertise, classroom management, teacher motivation and morale, mentoring or retention. This may include studies that report on privately or state funded induction programmes.
- Must be one of the following study types according to the EPPI-Centre taxonomy of study designs: exploration of relationships, evaluation naturally occurring, evaluation researcher manipulated, and include original empirical data.
- Must be in one of the following educational settings: early years, junior, secondary or sixth-form colleges.
- Must be published in English or be derived from English-speaking countries

### *Summary exclusion criteria*

- Not published or unpublished between 1988 and 2003 (Exclusion 1)
- Not NQTs' or beginning teachers' induction (Exclusion 2)
- Not any of the following study types: exploration of relationships, evaluation naturally occurring, evaluation-researcher manipulated (Exclusion 3)
- Not early years, junior or secondary phase education, or sixth-form colleges (Exclusion 4)

- Not published in English (Exclusion 5)

## ***In-depth inclusion and exclusion criteria***

### *Summary inclusion criteria*

- The topic focus is on 'teacher retention' or 'teacher performance' or 'teacher learning'.
- The population focus is on 'inductor' or 'mentor'.
- Empirical information is reported about 'teacher retention' or 'teacher performance' or 'teacher learning'.

### *Summary exclusion criteria*

- Not focus on 'teacher retention' or 'teacher performance' or 'teacher learning' (Exclusion 1)
- Not population focus on 'inductor' or 'mentor' (Exclusion 2)
- Not reporting empirical information about 'teacher retention' or 'teacher performance' or 'teacher learning' (Exclusion 3)

## Appendix 2.2: Search strategy for electronic databases

| Date      | Database                           | Keywords  | Years     | Number of records |
|-----------|------------------------------------|---|-----------|-------------------|
| 12 Jan 04 | ERIC via CSA                       | Beginning teachers or NQT                         | 1988-2004 | 2151              |
| 12 Jan 04 |                                    | Novice teachers                                   | 1988-2004 | 270               |
| 12 Jan 04 |                                    | Induction   | 1988-2004 | 1659              |
| 12 Jan 04 |                                    | NQT induction+retention                           | 1988-2004 | 104               |
| 12 Jan 04 |                                    | New teacher expertise+induction                   | 1988-2004 | 0                 |
| 12 Jan 04 |                                    | New teacher morale+induction                      | 1988-2004 | 0                 |
| 12 Jan 04 |                                    | Beginning teacher morale+induction                | 1988-2004 | 0                 |
| 12 Jan 04 |                                    | Beginning teacher morale+induction                | 1988-2004 | 0                 |
| 12 Jan 04 |                                    | Novice teachers+morale                            | 1988-2004 | 0                 |
| 12 Jan 04 |                                    | Novice teachers+induction                         | 1988-2004 | 67                |
| 12 Jan 04 |                                    | NQT+classroom management+induction                | 1988-2004 | 0                 |
| 12 Jan 04 |                                    | NQT+teaching performance+induction                | 1988-2004 | 0                 |
| 12 Jan 04 |                                    | Beginning teachers+teaching performance+induction | 1988-2004 | 13                |
| 12 Jan 04 |                                    | Beginning teachers+classroom management+induction | 1988-2004 | 39                |
| 12 Jan 04 |                                    | Mentoring + induction                             | 1988-2004 | 7                 |
| 12 Jan 04 |                                    | Mentoring + induction tutors                      | 1988-2004 | 0                 |
| 12 Jan 04 |                                    | Number of duplicates                              | 1988-2004 | 89                |
| 19 Jan 04 | Arts and Humanities Citation Index | Beginning teachers                                | 1988-2004 | 1                 |
| 19 Jan 04 |                                    | New teacher induction                             | 1988-2004 | 21                |
| 19 Jan 04 |                                    | Novice teachers                                   | 1988-2004 | 0                 |
| 19 Jan 04 |                                    | Novice teachers and induction                     | 1988-2004 | 0                 |
| 19 Jan 04 |                                    | Beginning teachers and induction                  | 1988-2004 | 0                 |
| 19 Jan 04 |                                    | NQT induction and retention                       | 1988-2004 | 0                 |
| 19 Jan 04 |                                    | Beginning teacher induction and retention         | 1988-2004 | 0                 |
| 19 Jan 04 |                                    | Mentoring and induction                           | 1988-2004 | 0                 |
| 19 Jan 04 |                                    | Beginning teachers                                | 1988-2004 | 8                 |
| 19 Jan 04 |                                    | NQTs  | 1988-2004 | 0                 |
| 19 Jan 04 |                                    | Beginning teachers + induction                    | 1988-2004 | 0                 |

|           |                      |  |           |     |
|-----------|----------------------|--|-----------|-----|
| 19 Jan 04 |                      | NQT induction and retention  | 1988-2004 | 0   |
| 19 Jan 04 |                      | Beginning teacher induction and retention                                | 1988-2004 | 0   |
| 19 Jan 04 |                      | Mentoring and induction  | 1988-2004 | 0   |
| 19 Jan 04 | ASSIA via CSA        | Beginning teachers   | 1988-2004 | 8   |
| 19 Jan 04 |                      | NQTs   | 1988-2004 | 0   |
| 19 Jan 04 |                      | Beginning teachers + induction   | 1988-2004 | 0   |
| 19 Jan 04 |                      | Novice teachers + induction  | 1988-2004 | 0   |
| 19 Jan 04 |                      | Beginning teachers and retention   | 1988-2004 | 0   |
| 19 Jan 04 |                      | Mentoring and induction  | 1988-2004 | 0   |
| 19 Jan 04 | Australian Ed Index  | NQT  | 1988-2004 | 1   |
| 19 Jan 04 |                      | Beginning teachers   | 1988-2004 | 561 |
| 19 Jan 04 |                      | Mentoring and induction  | 1988-2004 | 0   |
| 19 Jan 04 |                      | Mentoring and induction tutors   | 1988-2004 | 0   |
| 19 Jan 04 |                      |  | 1988-2004 | 0   |
| 19 Jan 04 | CERUK                | NQTs   | 1988-2004 | 0   |
| 19 Jan 04 |                      | NQTs + induction   | 1988-2004 | 2   |
| 19 Jan 04 |                      | Beginning teachers and induction   | 1988-2004 | 2   |
| 19 Jan 04 |                      | Novice teachers and induction  | 1988-2004 | 2   |
| 19 Jan 04 |                      | Retention and induction  | 1988-2004 | 2   |
| 19 Jan 04 |                      | NQTs and retention   | 1988-2004 | 0   |
| 19 Jan 04 |                      | NQTs and morale  | 1988-2004 | 0   |
| 19 Jan 04 |                      | NQTs and classroom management  | 1988-2004 | 0   |
| 19 Jan 04 |                      | NQTs and expertise   | 1988-2004 | 0   |
| 19 Jan 04 |                      | NQTs and teaching performance  | 1988-2004 | 0   |
| 19 Jan 04 |                      |  | 1988-2004 | 0   |
| 19 Jan 04 | Scottish (SCRE)      | NQTs   | 1988-2004 | 1   |
| 19 Jan 04 |                      | Beginning teachers   | 1988-2004 | 3   |
| 19 Jan 04 |                      | Beginning teachers + induction   | 1988-2004 | 0   |
| 19 Jan 04 |                      | NQTs and induction   | 1988-2004 | 0   |
| 19 Jan 04 |                      | NQTs and induction   | 1988-2004 | 0   |
| 19 Jan 04 | ISI web of knowledge | NQTs and retention   | 1988-2004 | 1   |
| 19 Jan 04 | BEI                  | NQTs   | 1988-2004 | 5   |
| 19 Jan 04 |                      | New teacher induction  | 1988-2004 | 13  |
| 19 Jan 04 |                      | Novice teachers  | 1988-2004 | 7   |
| 19 Jan 04 |                      | Novice teachers and induction  | 1988-2004 | 4   |
| 19 Jan 04 | Boolean search       | NQTs or Beginning teachers or novice teachers and induction or mentoring | 1988-2004 | 1   |
| 19 Jan 04 |                      | Beginning teachers   | 1988-2004 | 5   |
| 19 Jan 04 |                      | Beginning teachers and induction   | 1988-2004 | 11  |
| 19 Jan 04 |                      | NQTs   | 1988-2004 | 5   |
| 19 Jan 04 | Boolean search       | NQTs and induction   | 1988-2004 | 4   |
| 19 Jan 04 |                      | Beginning teachers and induction   | 1988-2004 | 15  |
| 19 Jan 04 |                      | Mentoring and induction  | 1988-2004 | 4   |
| 19 Jan 04 |                      | Beginning teachers and induction and retention                           | 1988-2004 | 0   |
| 19 Jan 04 |                      | NQTS and induction   | 1988-2004 | 5   |

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|           |  |   |           |    |
|-----------|--|---|-----------|----|
| 19 Jan 04 |  | Beginning teachers and induction                    | 1988-2004 | 18 |
| 19 Jan 04 |  | NQTS and induction                                  | 1988-2004 | 1  |
| 19 Jan 04 |  | Beginning teachers or novice teachers and induction | 1988-2004 | 4  |
| 19 Jan 04 |  | NQTS and mentoring                                  | 1988-2004 | 1  |
| 19 Jan 04 |  | Beginning teachers and mentoring                    | 1988-2004 | 1  |
| 19 Jan 04 |  | Beginning teachers and induction                    | 1988-2004 | 32 |
| 19 Jan 04 |  | NQTS and induction                                  | 1988-2004 | 5  |
| 19 Jan 04 |  | Beginning teachers and morale                       | 1988-2004 | 1  |

The databases searched were as follows:

AEI  
 ASSIA  
 British Education Index  
 CERUK  
 Education-line  
 ERIC  
 NORTI (website, grey literature)  
 Psychinfo  
 Social Science Citation Index



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## Appendix 2.3: Journals handsearched

Asia-Pacific Journal of Teacher Education

European Journal of Teacher Education

Institute of Education Viewpoint

Journal of In-Service Education

Journal of Education for Teaching

Mentoring and Tutoring

Professional Development Today

Research in Education Teaching and Change and Teaching

Teaching & Teacher Education

## APPENDIX 2.4 EPPI-Centre keyword sheet, including review-specific keywords

### V0.9.7 Bibliographic details and/or unique identifier

#### A1. Identification of report

Citation .....  
 Contact .....  
 Handsearch .....  
 Unknown .....  
 Electronic database (please specify) .....

#### A2. Status

Published .....  
 In press .....  
 Unpublished .....

#### A3. Linked reports

*Is this report linked to one or more other reports in such a way that they also report the same study?*

Not linked .....  
 Linked (please provide bibliographical details and/or unique identifier) .....  
 .....  
 .....  
 .....

#### A4. Language (please specify)

.....

#### A5. In which country/countries was the study carried out? (please specify)

.....

#### A6. What is/are the topic focus/foci of the study?

Assessment .....  
 Classroom management .....  
 Curriculum\* .....  
 Equal opportunities .....  
 Methodology .....  
 Organisation and management .....  
 Policy .....  
 Teacher careers .....  
 Teaching and learning .....  
 Other (please specify) .....

#### A7. Curriculum

Art .....  
 Business studies .....  
 Citizenship .....  
 Cross-curricular .....  
 Design and technology .....  
 Environment .....  
 General .....  
 Geography .....  
 Hidden .....  
 History .....  
 ICT .....  
 Literacy - first language .....  
 Literacy further languages .....  
 Literature .....  
 Maths .....  
 Music .....  
 PSE .....  
 Physical education .....  
 Religious education .....  
 Science .....  
 Vocational .....  
 Other (please specify) .....

#### A8. Programme name (please specify)

.....

#### A9. What is/are the population focus/foci of the study?

Learners .....  
 Senior management .....  
 Teaching staff .....  
 Non-teaching staff .....  
 Other education practitioners .....  
 Government .....  
 Local education authority officers .....  
 Parents .....  
 Governors .....  
 Other (please specify) .....

#### A10. Age of learners (years)

0-4 .....  
 5-10 .....  
 11-16 .....  
 17-20 .....  
 21 and over .....

#### A11. Sex of learners

Female only .....  
 Male only .....  
 Mixed sex .....

#### A12. What is/are the educational setting(s) of the study?

Community centre .....  
 Correctional institution .....  
 Government department .....  
 Higher education institution .....  
 Home .....  
 Independent school .....  
 Local education authority .....  
 Nursery school .....  
 Post-compulsory education institution .....  
 Primary school .....  
 Pupil referral unit .....  
 Residential school .....  
 Secondary school .....  
 Special needs school .....  
 Workplace .....  
 Other educational setting (please specify) .....

#### A13. Which type(s) of study does this report describe?

A. Description .....  
 B. Exploration of relationships .....  
 C. Evaluation .....  
     a. naturally-occurring .....  
     b. researcher-manipulated .....  
 D. Development of methodology .....  
 E. Review .....  
     a. Systematic review .....  
     b. Other review .....

## Section A: Effects of NQT induction review (2004)

|                                 |   |
|---------------------------------|---|
| A.1 Specific focus of the study | A.1.1 Professional development ( <i>early</i> ) |
|                                 | A.1.2 Teacher induction                         |
|                                 | A.1.3 Teacher retention                         |
|                                 | A.1.4 Teacher performance                       |
|                                 | A.1.5 Teacher morale/motivation                 |
|                                 | A.1.6 Teacher learning                          |
|                                 | A.1.7 Mentoring                                 |
|                                 | A.1.8 Classroom management                      |
|                                 | A.1.9 Other ( <i>Please specify.</i> )          |
| A.2 Specific population focus   | A.2.1 Inductees                                 |
|                                 | A.2.2 Inductors                                 |
|                                 | A.2.3 Mentors                                   |
|                                 | A.2.4 Other ( <i>Please specify.</i> )          |

## Appendix 3.1: Details of studies included in the systematic map

| Item   | Specific focus of the study                    | Specific population focus                     |
|--|--|---|
| Achinstein, B and Barrett, A. (2003) (Re)Framing Classroom Contexts: How New Teachers and Mentors View Diverse Learners and Challenges of Practice                             | Teacher induction<br>Teacher learning          | Inductees<br>Mentors                          |
| Barrett, J., Jones, G., Mooney, E., Thornton, C., Cady, J., Olson, J. (2002) Understanding Novice Teachers: Contrasting Cases  | Professional development (early)               | Inductees                                     |
| Barrington, R. (2000) An investigation into the induction period which considers the perspectives of NQTs and their induction tutors   | Teacher induction                              | Inductees                                     |
| Bartell C and Wagner L, 1991, Teacher induction as a state reform issue  | Teacher induction                              | Inductees                                     |
| Bauer S, LeBlanc G, 2002, Teacher Perceptions of the Mentoring Component of the Louisiana Teacher Assistance and Assessment program.   | Teacher performance                            | Inductees                                     |
| Bercik J & Blair-Larsen S, 1990, School based/university assisted teacher induction model  | Classroom management                           | Inductees                                     |
| Bolander, J. (2002) First-Time Teachers' Understanding and Support for Teaching First-Time Readers   | Teacher induction                              | Inductees                                     |
| Boyer, K, 1999, A Qualitative analysis of the impact of mentorship on new special educator's decisions to remain in the field of special education.                            | Teacher retention<br>Teacher morale/motivation | Inductees<br>Mentors                          |
| Bracht G, Peters M, 1989, Minnesota's Teacher Mentoring Program.   | Teacher performance                            | Inductees                                     |
| Brading, M. (1999) The Induction of Newly Qualified Teachers: perceptions of the professional development of NQTs as described by new teachers, their mentors and headteachers | Teacher induction                              | Inductees<br>Mentors<br>Other<br>Headteachers |
| Brown, Jim, 2001, Mentoring and the retention of newly qualified language teachers   | Teacher retention                              | Inductees                                     |

|  |   |  |
|--|---|--|
| Bubb, S, (2000). "Statutory Induction- a fair deal for all?" in Institute of Education 'Viewpoint' Dec 2000(12).   | Teacher induction<br>Teacher learning   | Inductees<br>Inductors   |
| Canniff J & Shank M, 2003, 'If you do what you always did, you get what you always got.'   | Teacher induction   | Inductees<br>Mentors<br>Other<br><i>dean of the college of education and human development, director of educational planning, president of education association</i> |
| Carter, M. and Francis, R. (2001) Mentoring and Beginning Teachers' Workplace Learning   | Teacher learning  | Inductees  |
| Chester M D, 1992, Alterable factors that mediate the induction year experience of teachers in an urban school.  | Teacher induction   | Inductees  |
| Conway C, Meeting Induction needs of Beginning music teachers: What can policy makers and program designers do?  | Teacher learning  | Inductees<br><i>Music teachers</i>   |
| Diehl C, Harris J, Barrios D, O'Connor H, Fong J, 2000, NB. A PILOT STUDY - Teachers Training Teachers: Four perspectives on an innovative mentoring program for intern science teachers   | Teacher performance<br><i>About a TRAINING programme for interns and one NQT to enhance science teaching</i>              | Inductees  |
| Draper J et al, 1992, A study of probationer teachers.   | Teacher learning  | Inductees  |
| Draper, J, Christie F, O'Brien J, 2003, The New teacher induction scheme in Scotland   | Teacher morale/motivation<br><i>Support offered by the programme was found to aid the new teachers in their new jobs.</i> | Inductees  |
| Eberhard J & Reinhardt-Mondragon P, 2000, Strategies for new teacher retention: creating a climate of authentic professional development for teachers with three or less years of experience                                       | Teacher induction<br>Teacher retention  | Inductees  |
| Freiberg M et al, 1994, Perceptions of Beginning teachers in an urban setting. Does mentoring make a difference?   | Mentoring   | Inductees  |
| Ganser, T. (2000) Evaluating a University Mentoring Program for K-12 Teachers: The University of Wisconsin-Whitewater Beginning Teacher Assistance Program   | Professional development (early)  | Inductees  |
| Gettys C & Ray B, 1996, An analysis of initial perception of the professional development school procedures  | Professional development (early)  | Inductees<br><i>BTs</i>  |
| Gratch, A. (1998) Growing Teaching Professionals: Lessons Taught by First Year Teachers<br>Greiman, B., Walker, W., Birkenholz, R. (2002) The Induction of Novice Teachers: A Study of First-Year Agriculture Teachers in Missouri | Professional development (early)  | Inductees  |
| Greiman, B., Walker, W., Birkenholz, R. (2002) The Induction of Novice Teachers: A Study of First-Year Agriculture Teachers in Missouri  | Teacher induction   | Inductees  |



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|  |  |   |
|--|--|---|
| Hale M, 1992, Perceptions of participants in the orientation Buddy program in Area 10.   | Teacher learning   | Inductees   |
| Harding E, McLain B, Anderson S, 1999, Teacher Preparation and Development (Ch. 1V only)   | Teacher performance  | Inductees   |
| Harris L, 1991, Teacher Induction Partnerships: an examination of a teacher induction partnership between Wayne State College and Regional and Local Education agencies.   | Teacher induction  | Inductees   |
| Harris, M., Holdman, L., Clark, R., Harris, T. (2001) Rural Teachers in Project launch   | Teacher induction  | Inductees   |
| Heaney S, 2001, Experience of Induction in one local education authority   | Teacher induction<br><i>new teachers</i>   | Inductees   |
| Heath-Camp, B et al, 1992, On becoming a teacher: an examination of the induction of beginning vocational teachers in American public schools.   | Teacher induction  | Inductees   |
| Henderson-Sparks J, Tracz S, Quisenberry J, 2003, Survival, Challenges and Retention: Four years of induction  | Teacher induction  | Inductees<br>440 1st year BTs<br>315 2nd year BTs<br>Other<br><i>These were called support providers</i><br>- N =82 |
| Hendrick LS et al, 2002, UCR RIMS/ BTSA Retention Research - preliminary report  | Teacher retention  | Inductees   |
| Horn P, Sterling H, Subhan S, 2002, Accountability through best practice induction models  | Mentoring  | Inductees   |
| Houston W et al, 1990, Effects of experienced support teacher assistance on 1st year teacher confidence, satisfaction and plans to continue teaching from "A study of the induction of 300 first year teachers and their mentors, 1989 - 90" (Part 5 and 10) | Teacher induction<br>Teacher retention<br>Teacher morale/motivation<br>Mentoring | Inductees<br>Mentors  |
| Jesus S & Paixao M, 1996, The 'reality shock 'of the beginning teachers  | Teacher morale/motivation  | Inductees   |
| Keiffer-Barone, S., Hendricks-Lee, M., Soled, S. (1999) Teacher Education in the 21st Century: Lessons from Intern Attrition in an Urban Professional Development School   | Teacher retention  | Inductees   |
| Kelchtermans, G. and Ballet, K. (2000) Developing Micro-Political Literacy: A Narrative-Biographical Study on Teacher Development  | Teacher morale/motivation  | Inductees   |
| Killeavy, M. (2001) Teacher Education in Ireland: the induction and continuing professional development of primary teachers  | Professional development (early)<br>Teacher induction<br>Teacher retention       | Inductees   |
| Klug B & Salzman S, 1990, Strengthening the Team: an inclusive model of university/school district support for novice teachers   | Teacher induction  | Inductees<br>Mentors  |

|  |  |  |
|--|--|--|
| Looney, J (1997) Mentoring the Beginning Teacher: A Study of Influencing Variables   | Teacher induction  | Inductees                              |
| Marso R & Pigge F, 1990, Teacher Mentor induction programmes: an assessment by first year teachers   | Teacher induction  | Inductees<br>Mentors                   |
| Meyer T, 2000, Finding a voice and place in a normative profession   | Teacher induction<br>Mentoring   | Inductees<br>Mentors                   |
| Mitchell D, Scott L, Hendrick I, Boyns D, 1998, The California Beginning Teacher Support and Assessment Program. 1998 Statewide evaluation study | Teacher induction<br>Teacher performance<br>Teacher morale/motivation        | Inductees                              |
| Moore B, 1990, First year teachers and the evaluation process  | Teacher learning   | Inductees<br>Inductors<br>Mentors      |
| New York City Board of Education, 1993, Mentor Teacher Internship Program. OERA report   | Teacher learning<br>Mentoring  | Inductees<br>Mentors                   |
| Norton J, 1996, The effective practitioner: Images from first year teachers.   | Teacher induction<br>Teacher performance                                     | Inductees                              |
| Odell S J , 1988, Characteristics of beginning teachers in an induction context  | Teacher performance<br>Teacher morale/motivation                             | Inductees                              |
| OFSTED, 2003, Teachers' early professional development.  | Professional development (early)<br>Teacher induction<br>Teacher performance | Inductees                              |
| Olebe, M, 1999, California Formative Assessment and support system for teachers:   | Teacher induction  | Inductees                              |
| Olsen D & Heyse K, 1990, Development and concerns of first year and re-entry teachers with and without mentors.                                  | Mentoring  | Inductees<br>Mentors                   |
| Queensland Board of Teacher Education, 1988, The induction of pre-school and kindergarten teachers in Queensland.                                | Teacher induction  | Inductees<br>Inductors                 |
| Ralph E, 1994, Enhancing the supervision of beginning teachers: a Canadian perspective.  | Professional development (early)<br>Teacher induction                        | Inductees                              |
| Sandlin R, Young B, Karge B, 1992 Regularly and Alternatively Credentialed Beginning teacher: Comparison and contrast of their development.      | Teacher induction<br>Teacher morale/motivation                               | Inductees                              |
| Schalock D, 2002, A contextual variable influencing the performance of 1st and 2nd year teachers: mentoring and support                          | Teacher induction<br>Teacher performance                                     | Inductees<br>Mentors                   |
| Scott N, 1998, Careful planning and serendipity? Promoting well-being through teacher induction  | Teacher morale/motivation  | Inductees<br><i>beginning teachers</i> |

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|   |   |  |
|---|---|--|
| Scott N, 2000, Building a strong foundation: the fifth annual report of the Beginning Teacher Induction Program in New Brunswick                              | Teacher morale/motivation<br>Mentoring  | Inductees<br>Mentors   |
| Scott N, 2001, Mentoring New teachers: a report on the 2001 beginning teacher induction program in New Brunswick  | Mentoring   | Inductees<br>Mentors   |
| Seltzer D, 2000, An investigation of support for beginning teachers in Kansas.  | Teacher induction   | Inductees  |
| Shields P, Esch C, Humphrey D, Young V, Gaston M and Hunt H, 1999, Teaching and California's future:  | Teacher induction<br><i>The part of this study which relates to Induction practices can be found in Part II - pp89 and 109.</i> | Inductees  |
| Smith T & Ingersoll R, 2003, Reducing Teacher Turnover: What are the components of effective induction?   | Teacher induction<br>Teacher retention  | Inductees  |
| Spuhler L, & Zetler A, 1995, Montana Beginning Teacher support program. Final Report (of three reports 1992-1995)   | Teacher induction<br>Teacher performance<br>Teacher morale/motivation<br>Mentoring  | Inductees<br>Mentors   |
| Stallion B, 1988, Classroom management intervention: the effects of training and mentoring on the inductee's behaviour  | Teacher retention<br>Teacher performance<br>Classroom management  | Inductees<br>Inductors<br>Mentors  |
| Tasmanian Department of Education, 2002, An Ethic of care   | Teacher induction   | Inductees<br><i>beginning teachers</i><br>Inductors<br><i>supervisors of induction, reps of govt. ed. system</i> |
| Totterdell M, Heilbronn R, Bubb S, Jones C, 2001, Evaluation of the effectiveness of the statutory arrangements for the induction of newly qualified teachers | Professional development (early)<br>Teacher induction<br>Teacher retention  | Inductees<br><i>NQTs were surveyed</i><br>Inductors<br><i>Induction tutors and headteachers were interviewed</i> |
| Tran M, Young R, Mathison C and Hahn B, 2000, New teacher confidence: How does it develop?  | Teacher morale/motivation   | Inductees  |
| Valli L, Raths J, Rennert-Ariev P, 2001, A beginning teacher survey study: a theoretical perspective  | Teacher induction<br>Teacher performance  | Inductees<br><i>NQTs</i><br>Other<br><i>pupils</i>   |
| Veenman S, de Laat H, Staring C, 1998, Coaching beginning teachers  | Teacher morale/motivation<br>Teacher learning   | Inductees<br>Mentors   |
| Walker L, & Richardson G, 1993, Changing perceptions of efficacy: from student teachers to first-year teachers  | Teacher induction<br>Classroom management   | Inductees  |
| Weisbender, Leo et al, 1989, Preventing teacher drop-out.   | Teacher induction<br>Teacher retention<br>Mentoring   | Inductees<br>Mentors   |

|   |   |  |
|---|---|--|
| Whitaker S , 2000, Mentoring beginning special education teachers and the relationship to attrition   | Teacher induction<br>Teacher retention<br>Mentoring | Inductees<br>Mentors                   |
| Williams, A., Prestage, S., Bedward, J. (2001) Individualism to Collaboration: the significance of teacher culture to the induction of newly qualified teachers | Teacher induction                                   | Inductees                              |
| Wong P, Sterling H, Rowland P, 1999, Effective induction practices for beginning teachers a qualitative research evaluation study                               | Teacher induction                                   | Inductees<br><i>beginning teachers</i> |
| Yosha P, 1991, The benefits of an induction program: What do mentors and novices say?   | Teacher performance                                 | Inductees                              |
| Yourn B, 2000, Learning to teach: perspectives from beginning music teachers  | Teacher induction<br>Mentoring                      | Inductees<br>Mentors                   |

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## Appendix 4.1: Details of studies included in in-depth review

### Aims

#### *Bubb (2000)*

Bubb's aims (p 2) are to examine the statutory induction arrangements in a London borough for their NQTs in terms of the following:

- whether career entry profiles were being used as intended
- whether NQTs were getting 10% release time and how the release time was spent
- what support NQTs had from their induction tutor
- whether NQTs were being observed
- how assessment procedures were working
- whether NQTs were making observations
- how induction tutors were fulfilling their role
- how NQTs and induction tutors felt about their jobs

#### *Boyer (1999)*

Boyer's aim was to 'analyse the 'impact of year-long mentorships on the decisions of 9 new teachers of students with autism, hearing impairments, moderate retardation, and physical disabilities, to remain in the educational field'.

#### *Houston et al. (1990a)*

The authors aimed to evaluate the Houston Independent School District support programme for first year teachers. These aims were called Goals (p 10).

Goal One: To ensure quality instruction for students of the specified categories of first year teachers by improving these teachers' effectiveness through a structured, systematic professional development support programme that

1. promotes beginning teachers' professional and personal wellbeing
2. assists them in achieving a successful first year in the profession
3. enhances their socialisation into the profession

Goal Two: To effect ongoing improvement in the quality of instruction for all students by increasing the retention rate of promising first year teachers

Goal Three: To strengthen the collaboration between and among area universities and Houston ISD to improve the educational programmes in both settings

Goal Four: To implement this subcomponent focusing on minority teachers, early childhood teachers, bilingual/ESL teachers, and special education teacher as a part of the pilot programme that will serve as a model for the 1991 state-mandated teacher induction programme.

#### *Moore (1990)*

Moore investigated the effect of induction and evaluation on first-year teachers' learning and satisfaction. The objectives were to discover what specific methods of induction and evaluation help beginning teachers to learn more about teaching and how this influenced satisfaction with their work.

The author also examined new teacher induction in terms of their contentment in their work and the effects of this on teacher retention (pp 4-7).

The three research questions were as follows (p 3):



1. How did first year teachers describe the sources of 'learning' they experienced during their induction?
2. How did they rate the evaluation process as a contribution to that learning?
3. How did learning to teach influence their satisfaction?

### ***New York City Board of Education (1993)***

The aim was to evaluate the Mentor Teacher Internship Program (city of New York). This report presents OERA's evaluation of the 1993-94 Mentor Teacher Internship Program (p 14).

### ***Schalock et al. (2002a)***

The aims of the study are to monitor and evaluate the mentoring and support for new teachers in schools over three years (p 8). The study focused on teacher careers and learning in K 5/6 of USA elementary schools. The study is a general examination of the effects of mentoring on new qualified teachers. The programme used was the TEP (Teacher Effectiveness Project).

### ***Spuhler and Zetler (1995a)***

The aims are embedded in the text. The aim is to evaluate the Montana Beginning Teacher Support Program (BTSP). This is the final report of a three-year study of the evaluation of the BTSP. Year 1 (1992-1993) was the pilot year followed by years 2 (1993-94) and 3 (1994-95). The purpose of the report is to provide a comprehensive description of all phases of the programme. The particular focus of the report is a study of the effect of the formal mentoring relationship between master teachers (mentors) and beginning teachers/newly qualified teachers (mentees).

### ***Stallion (1988)***

Stallion (p 3) states three central questions:

1. What were the complexities facing beginning teachers?
2. What current structures existed within the organisation of teacher education to reduce those complexities?
3. What intervention programmes were introduced to reduce those complexities?

### ***Totterdell et al. (2002a)***

The four overarching aims of the project (p 3) were to assess the following:

1. The effectiveness of mechanisms for carrying out the induction of NQTs, including the cost effectiveness of its various different components

2. The effectiveness of dissemination of information by DfES, TTA and appropriate bodies about the statutory arrangements
3. The impact on the effectiveness of NQTs as a result of undergoing the induction year
4. The impact on recruitment and retention of NQTs

### ***Whitaker (2000a)***

The purpose of the study was to find out what NQTS considered to be effective induction via mentoring, using a programme, and to examine the impact of this programme in their special education teaching.

The research question (p 48) was: 'What do NQTS consider to be effective induction via mentoring and what is the impact of the programme that they experienced in their special education induction.'

## **Contexts**

### ***Bubb (2000)***

NQT induction was introduced statutorily in May 1999. This needed evaluation soon after its implementation to assess whether or not the requirements asked for by the DfES were being carried out. This research was carried out one year after this statute. The author, having worked in the field of induction for over ten years, wanted to find out how the statutory arrangements would work in schools. During the first year of induction, the author delivered courses for NQTs and induction tutors in several London LEAs and at the Institute of Education, University of London. The author used contacts with NQTs and tutors to get a detailed picture of how induction was progressing. (p 2)

### ***Boyer (1999)***

There is an increasing number of special education students nationwide together with a decline in number of graduates in the field of special education. 11% of special education teachers leave the special classroom each year. This all leads to the challenge of unfilled teaching positions or positions filled with unqualified or inexperienced special educators. 'Mentorships have been increasingly recommended as a means of retaining new teachers.'

### ***Houston et al. (1990a)***

The study was concerned with the evaluation of the Teacher Conservation Project as a pilot programme to support beginning teachers in Houston. The test of this programme involved 300 first-year teachers and 300 support teachers during 1988 and 1989. It was fully piloted in 1989-90, involving 1,000 first year and 1,000 support teachers. This course linked pre-service and in-service work for teachers. The programme was not an evaluation programme but a support programme. The support and new

teachers met and shared some training. Support teachers observed their mentees in the classroom approximately once a fortnight and the beginning teacher received feedback through meetings (p. 11). The study was carried out 'because so many support programs included only marginal evaluation, and that which is included is not conducive to either improving the program or to increasing our knowledge base of effective strategies...' (p 6). There were too few studies that evaluated the effects of beginning teacher induction and those new teachers needed a forum in which to express their needs. The Houston Independent School District redesigned its professional development programme to be more responsive to the teacher populations in the district. The main concern was about retaining teachers in teaching. (p. 9)

### **Moore (1990)**

The study was carried out in the belief that teachers need to learn to teach through example, training and induction, practice, an understanding of pedagogy, debate and discussion with experienced teachers, and direct experience. The way that new teachers learn to teach needs evaluation to aid the improvement of induction. Teacher satisfaction in their jobs is another aspect of induction which the author cited as important for evaluation. The author therefore examined new teacher induction in terms of their contentment in their work and the effects of this on teacher retention. (pp 4-7)

### **New York City Board of Education (1993)**

The study is a follow-up to the previous year's study, carried out in New York State after the suspension of the programme in 1986 due to budgetary constraints and its re-establishment in 1992-93 in respect of a new legal clause (section 80.18) in New York State. The evaluation took place in the second year of the re-establishment programme.

### **Schalock et al. (2002a)**

The study was concerned with the relationship and organisation of mentoring support for newly qualified and second year teachers. It described the types of mentoring made available to new teacher in Western Oregon elementary schools as 'formal' and 'informal', according to how it was set up and carried out. It classified the amount of mentoring received by the beginning teacher as 'limited' and 'substantial'. The study assessed, by way of a series of questions, the effects of mentoring in terms of teacher performance variables: communicating outcomes, aligning instruction, varying instruction, assessing student progress, student feedback, student engagement, classroom management, promoting understanding and generating understanding.

### **Spuhler and Zetler (1995a)**

The State Board of Public Education called for the creation of a pilot beginning teacher support programme in various locations throughout the state of Montana, USA, with the purpose of studying the effect of a formal mentorship relationship between master teachers (mentors) and teachers in their first year of teaching (mentees). The sense of wellbeing arising within the beginning teacher was to be paramount with a programme design, inclusive of a period of development, a pilot, a period of implementation and a period of evaluation. 1995 was the designated evaluative period under the revised timeline. The study was undertaken under a number of guiding principles that differed from study conditions operating elsewhere at the time around the nation:

1. It was not driven by statutory requirements.
2. It was not targeted to address specific policy goals.
3. It was not part of a broader induction or early professional development initiative.
4. It did not use professional mentors.

These five principles collectively created one basic premise for the study: that is, the Montana BTSP examined the unique effect of one-on-one mentoring performed in relative isolation from other support systems. Central to the Montana structure is the relationship existing between the mentor and the new teacher as they function in the daily culture of the school.

### **Stallion B (1988)**

The author researched what, if any, differences in NQTs performance and classroom management there would be after induction training for BTs and mentors. She found that there had been little research in this area. Moreover, induction was also ad hoc in delivery. The research question was:

'What are the effects of classroom management intervention training and mentoring on the inductee teachers' classroom management behaviours?'

### **Totterdell et al. (2002a)**

The authors carried out research one year after a government circular, announcing statutory induction procedures for NQTs in 1999. The starting points for the evaluation were the intentions of the policy (as expressed in Circular 5/99: The Induction Period for Newly Qualified Teachers), and research findings which highlighted the weaknesses of the induction of newly qualified teachers (NQTs) before the statutory regulations came into effect, in September 1999. These formed the basis against which empirical findings could be compared and contrasted. Our overall approach was therefore to compare the

‘intentions’ of the policy with the ‘outcomes’ or actual practices of school, appropriate bodies and other bodies (p 3). To summarise: to evaluate the effectiveness of the statutory arrangements for the induction of newly qualified teachers that were brought in May 1999.

### **Whitaker (2000a)**

The context described why the study was undertaken as the first year being a ‘reality shock’: that the first year of teaching was instrumental in determining the retention of teachers to the profession and that little research had been carried out into the mentors of special education teachers in South Carolina, USA.

This study included many different samples of participants, including special education teachers, mentors, programme administrators, taken from both rural and urban districts, males and females from different cultures who worked with children of varying ages and disabilities at varying grade levels. They were subjected to a pilot study, discussion groups, taped focus groups, interviews, and questionnaires.

## **Findings**

### **Bubb (2000)**

Overall, Bubb found the NQT induction provision in the London borough of her research to be inadequate. She stated the following:

- Schools, nationally, were not prepared for statutory induction in 1999, but schools locally were well prepared for induction.
- There was a lack of guidance for NQTs.
- The career entry profile (CEP) was problematic: 80% of NQTs discussed their CEP with their schools.
- They felt that the CEP was inaccurate, irrelevant, difficult to understand, and not important; some did not have one and others did not have help filling one in.
- Funding for NQT induction was varied.
- One school out of the eight which did not attend meetings for induction training also did not offer their NQTs the recommended 10% reduced timetable.
- 76% of the NQTs had a planned programme for induction; those that did not have a planned programme regret this.

### **Boyer (1999)**

The findings are not presented cogently but more as post hoc eventualities. The application of the findings to the research questions (p 99) as follows:

Retention: ‘In only two cases did the new teachers included here believe that their mentors had clearly influenced their return to the field of special education; five of the remaining six participants who returned to special education spoke warmly of their mentors and the indirect impact they had on the decisions to remain in the field.’

Characteristics of mentorship that had the greatest influence on development of self confidence and teacher competence are outlined in some qualitative researcher judgements (pp 103-104): Advice from a mentor to help improve the situation for a student, mentors acting as a friend and colleague to a new teacher rather than an evaluator, accessibility of mentors, their ability to point to additional resources, etc.

Influences of mentorship are outlined (pp 104-105): Sources of inspiration, moral example of commitment to students in challenging circumstances, exemplifying continuing learning, influence by example, collaborative and co-operative teaching, etc.

### **Houston et al. (1990a)**

#### *Study 5 (p 125)*

- First-year teachers (FYT) preferred experienced support teachers (ESTs) to teach the same subject and at the same grade as they did.
- FYTs that were mentored by ESTs who taught the same subject and at the same grade as they did felt that these factors led to more effectiveness as coaches. Classroom proximity to their FYT gave insignificant results.
- FYTs coped better in the classroom after EST assistance and, with their assistance, they felt more confident.
- FYTs felt satisfied with their EST assistance and this also helped them feel more satisfied with their job.
- With assistance from ESTs, the majority of FYTs (73%) stated that they wanted to remain in teaching. Four percent stated that they wanted to leave teaching.
- White FYTs stated that they felt they had more problems than the other ethnic groups with managing classrooms.
- White FYTs stated that they felt they had more

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problems than the other ethnic groups with motivating students.

- White FYTs stated that they felt they had more problems than the other ethnic groups involving students.
- White FYTs stated that they felt they had more problems than the other ethnic groups with grading students.

#### Study 10

ESTs stated that FYTs showed that managing the classroom, the amount of paperwork and managing their time as the three biggest problems (p 127).

|                     | Mean | SD   | Rank |
|---------------------|------|------|------|
| Managing classroom  | 2.79 | 1.49 | 1    |
| Managing time       | 2.25 | 1.21 | 3    |
| Amount of paperwork | 2.68 | 1.33 | 2    |

The following were ranked by FYTs as the three items with which experienced support teachers helped them most (p 129):

|                    | Mean | SD   | Rank |
|--------------------|------|------|------|
| Managing classroom | 3.39 | 1.14 | 1    |
| Student motivation | 2.93 | 1.08 | 2    |
| Grading students   | 2.89 | 1.33 | 3    |

The following were ranked by FYTs as the three specified areas with which experienced support teachers helped them most (p 129):

|                           | Mean | SD   | Rank |
|---------------------------|------|------|------|
| Systems information       | 4.08 | 1.13 | 2    |
| Instructional information | 3.85 | 1.28 | 3    |
| Emotional support         | 4.09 | 1.16 | 1    |

ESTs identified the following types of assistance as the three most important ways that they could help FYTs (full results in text).

Most important ways % of ESTs reporting the ESTs helped FYTs

|                                     |    |
|-------------------------------------|----|
| Classroom management                |    |
| and organisation                    | 49 |
| Instructional skills and strategies | 44 |
| Emotional support                   | 39 |

#### Additional comments

99% of respondents answered this question.

Three interesting facts came out of this:

1. ESTs tend to be authoritative.
2. ESTs tend to be the sole resource for the FYTs.
3. ESTs tend to view FYTs as dependent.

#### Moore (1990)

- Most BTs and NTs attributed most of their learning to their induction programme and to their first year.
- 84% of BTs in first district (induction programme) attributed their learning to their consultant.
- 67% of BTs in second district (mentors) attributed their learning to their mentors.
- NTs in both stated that their previous experiences had been the greatest source of learning.
- Some NTs did not like the induction programme.
- More BTs and NTs found mentoring before school to be most helpful.
- BTs in the mentor programme liked the emotional support.
- BTs in induction programme like to watch other teachers and demo lessons.
- BTs in district workshops learned from the consultants.
- BTs in the mentor programme achieved a lot before school meetings but did not observe others.

#### Other points

Teachers' own evaluations of their induction: Formal evaluations in both districts were conducted twice a year.

Formal evaluations were often skipped due to lack of time; consultants did many evaluations but administrators did few; administrators did not provide feedback; in the administrative model, there were no failures; four teachers failed in the consultant model.

First-year teachers were asked to evaluate their induction on learning to teach (p 13):

8% BTs said it was damaging (consultants); 8% said it was helpful.

5% NTs said it was damaging (consultants); 53% said it was helpful.



73% BTs said it was not helpful (mentors); 27% said it was helpful.

79 % NTs said it was not helpful (mentors); 17% said was helpful.

84% BTs said it was very helpful (consultants).

42% NTs said it was very helpful (consultants).

0% BTs said it was very helpful (mentors).

4% BTs said it was very helpful (mentors).

### ***New York City Board of Education (1993)***

#### *Results summarised in abstract*

‘Results found that overall interns were quite satisfied with the help they received. Other findings include the following: (1) mentor most often shared information, products, and encouraged deliberation of options on coaching their interns; (2) instructional strategies and classroom management were typically the focus of the mentor-intern conferences; (3) interns felt that they particularly benefited from the discussion of professional practices with their mentors and from mentors’ encouragement and support. Overall results indicated that the programme had accomplished its major goals.’

(Specific results in tables 1 to 14)

Outcomes given in a resume (pp 30-56)

Interns’ outcomes: satisfaction with MTIP, professional competence as rated by the interns themselves

Mentors’ outcomes: professional satisfaction

\*Mean ratings of comfort in professional areas by mentored and unmentored respondents (i.e. control group) - no significant differences in ratings of comfort in academic areas (Table 11)

\*Numbers of interns (mentored and control group) intending to teach did not differ for mentored and control respondents (Table 14)

### ***Schalock et al. (2002a)***

Without controlling for additional contextual variables, there are no observable connections between type or amount of mentoring received and level of proficiency observed through the TEP-2 Observation Protocol.

For whatever reasons, the expected relationships between access to mentors and the performance of beginning teachers do not appear in these data. This may be due to many factors and certainly does not shed light on what performance would have been without mentoring.

Focus group results strongly point out other benefits of early career mentoring, such as emotional support and dealing with frustration or

discouragement.

The authors then compare the second year teachers with the first year, and suggest that mentoring results are clearer after a further year.

Overall, this study did not find that mentoring had any effect on the proficiency of teaching performance or teacher learning in the first year of teaching.

### ***Spuhler and Zetler (1995a)***

1. Mentees performed higher than average on retention and in relation to district evaluations, other assessments and self-assessments.
2. Over the period of the study (one year), mentees shifted from a preoccupation with self-concerns towards a greater focus on task and impact goals.
3. The Eastern Montana sample gained task and impact goals faster than their control counterparts, but this was not the case for Western Montana.
4. In-service training participation was shown to be a non-factor in the lives of beginning teachers.
5. Mentors were effective under the study conditions for 90% of the time.
6. Administrators felt positive about the programme, but a significant number would have preferred to have chosen another new teacher as mentee had they been given the choice.
7. Mentors were unanimously positive towards the programme. Mentees felt it had a positive impact and for 83% of the time they were positive towards the mentor; they were negative in one instance and uncertain in three instances. (p 25)
8. There was a dramatic difference in professional retention after one year between the mentees and the control group: 97% for mentees and 71.5% for the control group. In the second year, mentee retention was 91.5% and 73% for the control group. In the third year, mentee retention was 91% and there was no control group.
9. School district evaluations indicated that 12 mentees out of the 24 were rated ‘exceptional’ or ‘above average’. 13 were ranked exceptional on the district summative evaluations and all other mentees were ranked as ‘average’. (p 26)
10. IPDPs: At the end of the first year, the IPDPs shifted from self-concerns to impact goals. Beginning teachers focused their goals on student-centred, rather than self-centred, tasks. Eastern Montana beginning teachers self-evaluated more positively than those in the



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Western Montana area.

11. Results for year 2 were in line with what the 'Concerns' model would predict in professional teacher growth direction and magnitude.
12. Year 3 was positive for growth direction but not for magnitude (p 27).
13. Mentor effectiveness: The results over the three years indicated that 34% of the mentors exceeded expectations, 57% exhibited appropriate actions and 9% performed below expectations.
14. Mentee self-assessment: Of the 34 mentees, nine were normal for first year expectations, nine were ahead of expectations, six were average and none were below expectation.
15. Administrators assessments of mentees: N = 24, more than normal = 4, average = 6, less than normal = 13, not ranked = 1 in terms of problems encountered; more than normal = 14, average = 7, less than normal = 2 (not ranked = 1) in terms of success frequency.
16. In-service participation: Administrators ranked mentees as having a discussion mean of 20.5 for perceived availability and a mean of 13.5 for opportunity to participate (p 29).
17. Other growth indicators identified by administrators: 69.5% believe that the new teachers (mentees) would develop beyond normal expectations; 26.5% did not believe this and 4% did not respond; 95% stated that progress was actually faster than expected and 5% stated that this was not the case.
18. Administrators' attitudes towards the programme (p 30): Two would have preferred something different from their mentor and 22 were satisfied. 11 out of the 24 would have preferred a different mentee, nine were satisfied and seven were uncertain. 17 out of the 24 administrators believed that mentors personalise the school for the beginning teacher, one did not believe this was the case, one thought it was to some degree, and seven had no response (the authors imply that the excess counts resulted from multiple responses).
19. Mentors' attitudes towards the programme: 22 stated that the programme was positive.
20. Mentees' attitudes towards the programme: 23 rated the programme as positive for personal impact and one was neutral. 21 rated the programme as positive for professional impact, one was negative and two were neutral; 20 rated the mentor/mentee relationship positively, one was negative and three were neutral. Overall, these results indicate there was a 90% chance of the mentee experiencing a positive learning environment and a positive relationship with the

mentor.

21. Meetings with mentors and mentees were noted and these are referred to as 'citations'. Over 4,000 citations were collected. The mean number of citations per mentor/mentee pair was 160 and these ranged between 100 and 200 in number (p 65).
22. The highest ranked common conditions were in year 2 where 18 conditions were isolated as having 35 or more citations. Year 3 isolated 23 conditions. A combination of these conditions lists (p 69) produced 12 conditions:
  - a. beginning teachers taking personally much of what is happening to them
  - b. pupil discipline
  - c. faculty/staff relation
  - d. extra-curricular assignments
  - e. mentee perception of their own professional growth
  - f. mentees perception of their own attainment levels
  - g. the mentoring process
  - h. content and curricular aspects of teaching
  - i. parental relations
  - j. release time
  - k. methods and materials
  - l. pupil values
23. Table 6 has no definite pattern and Table 7 shows school context conditions with low concerns that arose from any one year.

### ***Stallion B (1988)***

Hypothesis 1: Investigated differences between groups where both inductees and their mentors received training together (group 1) and where only the mentors received training (group 2)

#### *Student engagement*

The effects of NQT induction showed no statistically significant differences between the two groups I and II in the percentage of 'definitely on task', 'probably on task' and 'off task' behaviour.

#### *Conference report forms*

No statistically significant differences between the two groups I and II were found in number of classroom management problems discussed during mentor and inductee conferences. Therefore, insignificant advantages existed for training the mentor/inductee pairs as opposed to mentors alone for this part of their interaction..

Hypothesis 2: Investigated differences in inductee teachers in classroom management behaviours when both mentors and beginning teacher receive training (group I) and when they did not receive training (group III).

No significant differences between the two groups of inductees were found. In instructional management, rules and procedures, meeting student concerns, managing pupil behaviours and student misbehaviours, group means differed.

#### *Student engagement*

No statistically significant differences between the two groups I and III were found in percentage of 'definitely on task' and 'probably on task' behaviour. But group III had more 'off-task' behaviour than group I (p 26).

#### *Conference report forms*

Statistically significant differences were found between the two groups I and III in number of classroom problems discussed during mentor/inductor conferences. Therefore, when mentor and inductee train together, they discuss more frequently than when untrained together.

Hypothesis 3: Investigated differences among beginning teachers when mentors only received training (group II) and group III (none trained)

In instructional management, rules and procedures, meeting student concerns, managing pupil behaviours and student misbehaviours, no significant differences were found in inductees (p 27).

#### *Student engagement*

No significant differences were found between groups II and III in 'definitely on task' and 'probably on task' behaviour. But 'off task' behaviour was significantly different between the two groups.

The means were varied: untrained teachers had more off task behaviours than mentor trained teachers (p 28).

#### *Conference report forms*

Statistically differences between II and III were found in discussion in conferences. Therefore, trained pairs were found to discuss classroom management more frequently than untrained pairs.

Trained mentors had influence in mentor/inductee conferences.

### ***Totterdell et al. (2002a)***

The main findings summarised in executive summary relating to four research aims: A, B, C and D below.

#### ***A. The effectiveness of mechanisms for carrying out the induction of NQTs***

(a) The role of the school

1. A large majority of respondents reported that the introduction of statutory induction had improved their school's induction provision. Almost all respondents who thought their school's induction provision had not improved said that they already had extensive induction programmes in place.
2. The number of NQTs on temporary contracts remains high: more than one-third of NQT contracts. No evidence was found that those on temporary contracts receive lesser quality induction provision than those on fulltime contracts.
3. Specific characteristics of certain schools often affect how induction is provided. In certain distinctive situations, induction was usually more effective when managers paid appropriate consideration to alternative sources of personal support, particularly:
  - in small schools, especially to overcome isolation when planning
  - in small schools, where the headteacher has taken the role of induction tutor but has limited time to carry it out
  - in challenging schools, with multiple staffing shortages and challenging pupil behaviour
  - in areas where it is difficult to find satisfactory supply teachers to cover NQTs' release time
4. The 10% reduced teaching timetable is considered a vital component of induction provision by all involved. Despite this, our surveys of NQTs showed that 20% of the 1999-2000 cohort and 19% of the 2000-2001 cohort did not consistently receive this entitlement. Classroom release facilitates many other aspects of induction, such as attendance at training sessions and observations of other teachers, and so a significant minority of NQTs are experiencing less than full support.
5. The management of the use of release time is highly variable across schools. Between one-quarter and one-third of NQTs had no programme of activities; between one third and a half had only occasional activities; and approximately one quarter had a year long programme. (This figure includes some of the 20% who had no release time.)
6. Some head teachers and induction tutors expressed concern about NQTs who had to deal with particularly 'difficult' situations that were beyond their control. It was frequently suggested that these NQTs should be granted an extension and be moved to another school, to give them a better chance of success, rather than fail their induction period.
7. Whole school involvement in statutory induction is highly beneficial for NQTs. All staff need to be

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made aware of the school's induction provision and offered opportunities to contribute to NQTs' programmes of support and training.

8. Whole school involvement in statutory induction is highly beneficial for NQTs. All staff need to be made aware of the school's induction provision and offered opportunities to contribute to NQTs' programmes of support and training.
9. Induction tutors in all types of school surveyed are predominantly senior teachers. Theirs is the key role in induction provision and they need to have a wide range of skills, knowledge and experience, including in-depth understanding of the standards for qualified teacher status and induction, and of the contexts of education and professional development. Many induction tutors are dedicated to maintaining good induction provision, often without being given time or financial reward.
10. The large majority of state school induction tutors received support and training for their role from the LEA, although a significant minority did not, which is a concern.
11. Observation and feedback of, and observation by, NQTs were found to be the most effective and cost-effective element of induction. The professional dialogue about teaching was particularly beneficial.

(b) The role of the appropriate body

1. Appropriate bodies are fulfilling their statutory role. A few are doing this to a minimum, while many are going well beyond the statutory requirements in a variety of ways.
2. Of the support offered by appropriate bodies, networking and moderation sessions were considered most useful by induction tutors and NQTs alike. However, they were not universal and there were calls for more sessions of this type.
3. There was widespread consensus that a session introducing induction to NQTs, induction tutors and others in schools was essential and highly effective. Sessions on behaviour management were welcomed and appreciated, but other courses were seen to be less effective. Lack of opportunities to meet individuals' targets, repetition of material covered during initial teacher education and, most significantly, the organisation and presentation style of course leaders, were heavily criticised.
4. Many NQTs said that certain entitlements were not consistently being provided by their schools. They made strong calls for their schools' induction provision to be monitored by appropriate bodies much more tightly than at present.
5. There is evidence to suggest that some schools and Appropriate Bodies are reluctant to fail NQTs

on account of the consequences of not being able to teach subsequently in the state maintained sector. Rather, NQTs at potential risk of failing are encouraged to move to other schools which are not necessarily aware of their new teacher's background at the point of appointment.

6. Overall, schools reported that preparation and guidance received for induction from LEAs has improved. Training for induction tutors in assessing NQTs against the induction standards appears to have improved since the OfSTED findings in this area.
7. Quality assurance was systematically and thoroughly undertaken in some, but by no means all, appropriate bodies. For example, certain Appropriate Bodies give no feedback to schools on assessment reports in ways that would assist future improvement. This issue raised serious concerns for maintaining the momentum of improvement.

(c) *Cost effectiveness of the components of induction*

1. Funding arrangements vary within institutions but in all sectors surveyed, the spending head / budget-holder of the induction funds is a senior teacher or manager. In primary schools, this is generally the headteacher (95%).
2. The funding given to schools covers the NQTs entitlement to a 90% timetable, but leaves very little left over to cover other activities.
3. The LEA / appropriate body service agreement package can represent good value for money for schools, as they can include a range of elements, such as monitoring and assessment visits; support for induction tutors; and courses for NQTs. Given the high costs of releasing teachers from the timetable, the provision in these service agreements is an important factor in the costs of induction to individual schools and colleges.
4. The most cost effective, as viewed overall by all respondents, is lesson observation of all kinds. This finding was reached by a correlation of two sets of results. That is, a variety of induction activities were rated for their cost-effectiveness by head teachers, induction tutors and appropriate bodies. These activities were rated by NQTs for their effectiveness as induction activities. Head teachers/principals and appropriate body respondents said that lesson observations made by NQTs of other teachers teaching was the most cost-effective activity, whereas induction tutors placed 'being observed' and 'observing teachers in their own school' almost equally highly. NQTs rated observing a teacher from their own school teach their own class, as a very effective induction activity.
5. Ranked next as most cost-effective were all

meetings other than review and assessment meetings. The least cost-effective induction activities are induction courses run by some private organisations or HEIs.

*B. The effectiveness of dissemination of information by DfES, TTA and appropriate bodies*

1. Although most schools were aware of the new statutory induction standards, a proportion had not received relevant documentation, including the DfEE circular. In particular, information relating to assessment was found to be the least effectively disseminated information.
2. Numerous instances of confusion about induction were discovered. Some of these were lack of awareness of regulations, such as whether there is a time limit between gaining qualified teacher status (QTS) and starting induction. Others were caused by their employing schools not meeting expectations based upon accurate interpretations of the regulations.
3. There is almost total confusion among supply teacher agencies about the definition and implications of the 'four term rule' for NQTs working on supply.

*C. The impact of induction on the effectiveness of NQTs' teaching and professional development*

1. It is evident that the career entry profile (CEP) is not working as intended. At best, the CEP acts as a summative judgement at the end of initial teacher education. Almost all targets written into CEPs at the end of initial teacher education courses were inappropriate in specific employment contexts. There is duplication within LEA, TTA and school professional development documents of the recording of targets, and there is little space in which to review them.
2. A large number of schools only review objectives at the end of each term, rather than half-termly as is required by induction regulations.
3. NQTs are acutely aware of variability in different experienced staff's interpretations for assessment against the induction standards and differences of provision across schools, and they are concerned that induction should be equitably implemented.

*D. The impact of induction on the recruitment and retention of NQTs*

1. There was no evidence that certain groups (part-timers, temporary contracts, mature entrants, people from ethnic minorities, men or women) had received poor treatment in terms of induction provision.
2. The number of NQTs working as supply teachers has decreased radically. It seems from evidence that NQTs appreciate that being in a stable post

is beneficial for a satisfactory completion of their induction period.

3. Head teachers, induction tutors and NQTs consider that induction is providing a bridge between initial teacher education and teaching. There is less evidence of it being so effective for the transition from the first year of teaching to further professional development, but this is thought to be more difficult for participants to judge. It was widely considered 'too early to tell' whether induction was having an impact on the recruitment and retention of NQTs through providing a 'bridge' between initial teacher education and further professional development.
4. Induction appears to be fitting in very well with the performance management in school. Head teachers and induction tutors found coherence between the two practices and expected future practical benefits.

**Whitaker (2000a)**

Emotional support was found to be important to the BTs in this study, but there was a big variation in results.

NQTs need content assistance several times a year or one to several times a month.

*Tests made to test effectiveness and content*

Emotional support, resources, information on school districts and special education = 77% in variance in over mentoring (p 555)

*Mentor characteristics*

Important: 1. Mentor knowledge 2. Personal characteristics and general professional characteristics

Less important: Same planning period, similar teaching styles, same gender (small differences in numbers)

Personal characteristics were found to be more important than professional characteristics.

46% mentors were not specialist special education teachers. Those who were specialist achieved a slightly higher rating for personal, professional and professional for special education. This was found to be significant; NQTs preferred the mentor to be specialised special education teachers.

*Principal factors in mentoring (p 558)*

1% NQTs left teaching in the first year; 8% planned to leave in the first year; 27% planned to leave in five years; and 64% planned to stay. There was a small correlation between effective mentoring and

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staying; five were unsure.

*Job satisfaction*

4% NQTs were very dissatisfied; 16% were somewhat satisfied; 36% were somewhat satisfied; and 44% were very satisfied.

Mentoring effectiveness accounted for 6% of variance for job satisfaction

Job satisfaction accounted for 18% of variance for retention (p 560).



The results of this systematic review are available in three formats:

**SUMMARY**

Explains the purpose of the review and the main messages from the research evidence

**TECHNICAL REPORT**

Includes the background, main findings, and full technical details of the review

**DATABASES**

Access to codings describing each research study included in the review

These can be downloaded or accessed at <http://eppi.ioe.ac.uk/reel/>

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