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REVIEW

September 2004

A systematic review of recent research (1988 – 2003) into the impact of careers education and guidance on transitions from Key Stage 3 to Key Stage 4

Review conducted by the Transitions Review Group

The EPPI-Centre is part of the Social Science Research Unit, Institute of Education, University of London

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AUTHORS AND REVIEW GROUP

Sue Moon, CeGS Associate - Lead Writer
Rhianne Lilley, CeGS Researcher – Researcher and Writer
Dr Sandra Morgan, CeGS Senior Associate - Critical Reader and Writer

Sue Gray, CeGS Associate – Researcher
Irene Krechowiecka, CeGS Associate – Researcher

Contact details

Centre for Guidance Studies (CeGS), University of Derby

Lindsey Bowes (Research Co-ordinator)
CeGS
University of Derby
Kedleston Road
Derby DE22 1GB

Tel: 01332 591267
Fax: 01332 622726
Email: l.j.bowes@derby.ac.uk

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CONFLICT OF INTEREST STATEMENT

As part of the quality-assurance processes at the CeGS, visiting professors are sometimes called upon to provide critical feedback on major research reports. In this role, with his knowledge of the studies in the review, and as co-author of one of them, Professor Tony Watts has commented on the accuracy of the reporting. However, the weight of evidence judgements on the included studies were made independently by members of the review group with support from the EPPI-Centre.

LIST OF ABBREVIATIONS

ASCA	American School Counselor Association
RFI	British Education Index
RIDS	Bath Information and Data Services
CACG	Computer-assisted career guidance
CEG	Careers education and guidance
CeGS	Centre for Guidance Studies
CPFF	Career planning and exploration efficacy
CRAC	Careers Research Advisory Centre
CV	Curriculum vitae
DfEF	Department for Education and Employment
DfES	Department for Education and Skills
ELT	English language teaching
EPPI-Centre	Evidence for Policy and Practice Information and Co-ordinating Centre
ERIC	Educational Resources Information Center
GCE	General Certificate of Education
GCSF	General Certificate of Secondary Education
GNVQ	General National Vocational Qualification
HMI	Her Majesty's Inspectorate
HMSO	Her Majesty's Stationery Office
ICG	Institute of Career Guidance
ICT	Information and communications technology
KS	Key Stage
MVC	Manning vocational challenges
NACGT	National Association of Careers and Guidance Teachers
NFER	National Foundation for Educational Research
NIACE	National Institute of Adult Continuing Education
NICFC	National Institute for Careers Education and Counselling
NVQ	National Vocational Qualification
OECD	Organisation for Economic Co-operation and Development

OFSTED	Office for Standards in Education (Ofsted)
OHMCI:SW	Office of Her Majesty's Chief Inspector of Schools in Wales
PSE	Personal and social education
PSHE	Personal, social and health education
QCA	Qualifications and Curriculum Authority
QPID	Quality and performance improvement dissemination
RFFI	Research Evidence in Education Library
SCAA	School Curriculum and Assessment Authority
SEN	Special educational needs
SFS	Socio-economic status
SSRU	Social Science Research Unit
UK	United Kingdom
US / USA	United States / United States of America

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SUMMARY

Background

'Transition' in the United Kingdom (UK) is characterised by a series of distinct phases within an educational context, which mark the boundaries between the end of one stage of education and the beginning of the next (Looker and Dwyer, 1998). Successful transition through the education system into further education (FE), training and work is central to current government policies, designed to promote social inclusion as well as economic prosperity through competition and the development of labour market skills. However, by the end of 2000, the UK appeared to be falling behind its European neighbours. One in four 16 to 18 year-olds was not in education and training, which was below national averages reported by the Organisation for Economic Co-operation and Development (OECD) in Campbell *et al.* (2002). This study found that, overall, the proportion of the workforce holding level 2 (equivalent of General Certificate of Secondary Education (GCSE) grades A-C) or level 3 (equivalent of A levels) qualifications in the UK is currently well below those in France and Germany. In England, the government set targets to increase the percentage of pupils gaining five or more GCSEs at Grades A* to C (or equivalent) from 50% in 2000 to 54% by 2004. The proportion of 19 year-olds achieving a level 3 qualification is expected to increase from 51% in 2000 to 55% in 2004 (Department for Skills and Education (DfES), 2001b). Access to high quality information, advice and guidance is integral to fulfilling these targets (DfES, 2003).

The Transitions review group aims to contribute to the development of this evidence base by undertaking a systematic review of existing research evidence concerned with the distinct 'actions' and 'influences' that impact on transitions across Key Stages 3 to 4, including careers education and guidance, leading up to the point when choices and decisions are imminent.

Aims and review questions

The overall aim of the review is to identify the available research evidence in a systematic and objective way in order to ascertain the role and impact of careers education and guidance (CEG) on young people's transitions from Key Stage (KS) 3 (ages 11 to 13) to KS 4 (ages 13 to 16).

The aims of the study were as follows:

- To investigate the effects of CEG during KS 3 (ages 11 to 13) on the transitions made by young people from KS 3 to 4 (age 13) and on young people's learning and development during KS 4 (ages 13 to 16)
- To assess the influence of 'internal' and 'external' factors on the outcomes of transitions, such as young people's motivation and capabilities, parental involvement, socio-economic constraints, demography, family relationships, support services and environmental factors

- To relate the outcomes to policy developments in careers education and guidance since 1995 in England in order to assess their impact on practice within and outside schools
- To make recommendations based on the findings, designed to inform future policy and practice, and to ensure that decisions are evidence-based.

Our research question is set within the context of the reform to secondary education as cited in *14-19: Opportunity and Excellence* (DfES, 2003):
What is the impact of CEG policies and practice during KS 3 (ages 11 to 13) on young people's transitions from KS 3 to KS 4 (at age 13) and on their learning and personal development during KS 4 (ages 13 to 16)?

The following sub-questions are also considered:

How does careers education and guidance affect the transition process and/or learning and motivation?

What internal and external factors modify the effects of careers education and guidance?

Methods

The review process is highly systematic and comprises a number of distinct phases: searching, screening, keywording and data-extracting.

Searching: The review group systematically conducted a comprehensive search for reports of relevant empirical research. The search included studies that focused on CEG delivered at KS 3 and measured the relevant outcomes of the intervention at KS 4. The search encompassed studies written in English and published between 1988 and 2003, in order to capture the influence of key changes in the UK secondary school curriculum and careers services. The search excluded studies that focused solely on the effectiveness of 'citizenship' and those that were not written in the English language.

Screening: All identified studies were screened by title and abstract according to set inclusion and exclusion criteria derived from the review question. If at this stage the studies appeared to meet the inclusion criteria, or where a decision could not be made by only screening title and abstract, the full text for the studies was obtained and further screening took place.

Keywording: Studies meeting the inclusion criteria were coded, using the EPPI-Centre core keywords (EPPI-Centre 2002a; Appendix 2.4). In addition, the review group developed review-specific keywords (Appendix 2.4.1) that were also applied to each study.

Keyworded studies were used to produce a systematic map designed to describe the nature of the research that has investigated CEG at KS 3. All studies in the systematic map were then data-extracted for inclusion in the synthesis and in-depth review.

Data-extraction involved the application by the review group of the EPPI-Centre standardised data-extraction guidelines to all studies (EPPI-Centre, 2002b). These guidelines provided the basis for the review group's assessment of the quality of the design and findings of the studies, articulated as 'weight of

evidence'. The results of the data-extraction process were then synthesised according to the framework underpinning the review strategy.

Rigorous quality monitoring procedures were applied throughout the review process to ensure that all judgments were unbiased. All decisions made were independently verified by two members of the review group and moderated by staff from the EPPI-Centre. In the main, differences of opinion were resolved through discussion and consensus was reached without difficulty.

Results

The initial search yielded 6,766 studies. Screening by title and abstract reduced the number of potential reports for inclusion in the systematic map to 539 (338 from electronic databases and a further 201 from handsearches). The subsequent two-stage screening process, based on full texts, only identified 10 studies that met all the set inclusion criteria.

Seven of the studies were carried out in the UK and three studies were carried out in the US (Luzzo and Pierce, 1996; Peterson *et al.*, 1999; Turner and Lapan, 2002). The majority of the included studies were carried out in the 1990s (n=8) and therefore pre-date the rapid and far-reaching changes, such as the focusing agenda (UK) and the introduction of Connexions (England) in 2000 (see section 1.3). Of the two more recent studies included, one was carried out in the US (Turner and Lapan, 2002) and the other in the UK (Morris *et al.*, 2001).

The quality of the studies included in the in-depth review varied. Only two studies were judged to provide a high weight of evidence (Edwards *et al.*, 1999; Howieson and Semple, 1996), with the majority (n=7), providing a medium weight of evidence (Luzzo and Pierce, 1996; Office for Standards in Education (Ofsted), 1995; Office of Her Majesty's Chief Inspector of Schools in Wales (OHMCISW), 1997; Morris *et al.*, 1998, 2001; Peterson *et al.*, 1999; Turner and Lapan, 2002). In the review group's judgement, only one study included provided a low weight of evidence (Ofsted, 1998).

Synthesis

The synthesis of the evidence is provided below. It is divided into a number of emerging themes, which correspond to the review question and sub-questions.

What is the impact of general CEG provision on the transition between KS 3 and KS 4 and on learning and development during KS 4?

Six UK studies focused on the quality of general provision of CEG in schools. Only one study was judged as providing a high weight of evidence (Howieson and Semple, 1996). Four were judged to provide a medium weight of evidence (Morris *et al.*, 1998, 2001; Ofsted, 1995; OHMCISW, 1997;), and one was judged as providing a low weight of evidence (Ofsted, 1998). The majority of these studies were government-funded and had broad aims, mainly relating to the quality of teaching and learning in CEG in secondary schools. One study focused on student perceptions of guidance in Scottish schools (Howieson and Semple, 1996) and three aimed to evaluate the impact of government initiatives (Morris *et al.*, 1998, 2001; Ofsted, 1998).

Overall, the evidence suggests that provision of CEG varies from school to school, depending on a range of factors that can be seen as 'indicators' of quality, including: school policy and management; content and organisation of CEG programmes; qualifications of teaching staff designated to deliver CEG; standards of students' work; and library resources. The research implies that these factors affect the transition of young people. Where provision is good, the impact on young people in transition appears to be positive.

- The evidence from Ofsted (1995) suggests that students' careers-related learning is dependent on, among other things, the quality of provision of CEG in schools. The standards of students' work were found to be higher where schools had a good written policy on CEG covering each of the Key Stages, linked to the school development plan, and a planned programme of CEG provided by designated staff who had received proper training and support.
- Both Ofsted studies also provide evidence that CEG is beneficial to students in helping to develop knowledge and skills to enable them to make educational and career choices. Careers guidance for students at the end of KS 3, KS 4 and the sixth form was judged to be generally 'sound'. Between Year 10 and Year 11, most students demonstrated a significant growth in their knowledge and understanding of the post-16 choices and they had acquired many skills which would be useful in making decisions and implementing them (Ofsted, 1995). The attainment of students, in terms of knowledge, skills and understanding in CEG, was reported as satisfactory in the majority (70%) of secondary schools and about half the students appear to make good progress at the end of KS 3 and during KS 4 (Ofsted, 1998). The reports raised concerns about students' needs to develop a better and more realistic understanding of the changing nature of the workplace and the implications for their own futures. Most Year 11 students were found to have a limited understanding of post-16 General National Vocational Qualifications (GNVQs) courses, and students' knowledge and understanding of the demands of GCE A-level were reported as superficial among half of those who were considering this path (Ofsted, 1998).
- Two studies evaluated the impact of the Year 9 and 10 Initiative introduced in 1995 to improve the quality and coverage of careers guidance for pupils from the age of 13 (DfEE, 1994). Ofsted (1995) reported that the impact of the Initiative in the first year was 'modest' with 'considerable confusion' found in schools regarding its purpose and scope. The report is critical of some institutions that lack a coherent and developmental CEG provision across the Key Stages. Only a third of schools were reported as providing 'good' or 'very good' CEG for their students. The quality of provision in another third of schools was reported as 'poor' and as providing only limited benefits to students. The report highlighted that the impact of various government initiatives had, in many cases, been limited.
- The later study (Ofsted, 1998) assessed the impact of the Year 9 and 10 Initiative as 'satisfactory' in nearly half of the schools. However, a quarter of schools were reported as failing to offer a planned and well-organised programme of careers education. The study indicates that provision varied in terms of the content and organisation of CEG. The time allocated for careers work was judged as 'unacceptable'. However, the authors reported that the initiative had increased the amount of time for careers teaching in Year 9 in over half of schools, with additional time reported as being spent on work

associated with option choices, introducing students to the careers library, and explaining the work of the careers service.

- Morris *et al.* (1998) also indicate that the development of career-related skills was associated with a number of school-level factors: school type; the ability profile of the pupils in the school; and the type of CEG provision. The ability profile was reported to be a significant factor in the development of 'factual knowledge', 'careers exploration skills' and 'transition skills'. Students who were based in guidance community schools¹, consistently demonstrated significantly higher levels of 'careers exploration skills' than students in other schools. The level of 'careers exploration skills' was also found to be significantly lower where CEG was delivered primarily through parallel provision². Young people's 'decision-making skills' and 'openness to guidance' were less well developed in such schools.
- The Welsh study (OHMCISW, 1997) reported that, although the quality of CEG in Welsh schools was 'satisfactory', there was a significant amount of unsatisfactory practice in KS 3, especially in relation to providing information that enabled pupils to take account of the career implications of courses to be followed in KS 4.
- Overall, the evidence suggests that the quality of teaching in CEG is varied (Ofsted, 1995, 1998; OHMCISW, 1997). Ofsted (1998) indicates that although the quality of teaching is satisfactory in the majority (80%) of careers lessons and half of the teachers have a very good understanding of CEG, the other half are insufficiently trained for careers work and are in need of further support. The report goes on to say that there are not enough suitably qualified teachers of careers education and only a third of co-ordinators hold a recognised careers qualification. In the Welsh study (OHMCISW, 1997), teaching by trained and experienced staff is reported as generally good. Authors report that well-planned lessons, based on clear aims and objectives, give pupils a clear insight into career choices available and the implications of these choices. However, when a careers programme is taught by non-specialists, the quality of the teaching varies widely, especially at KS 3. Overall, the evidence implies that the lack of expertise in the delivery of CEG is an important variable that impacts negatively on young people in transition.
- CEG was primarily delivered through Personal and Social Education (PSE)³ at KS 3 in three of the studies in the in-depth review (Morris *et al.*, 2001, Ofsted, 1998; OHMCISW, 1997). Ofsted (1998) reported that the links and relationships between careers units and other aspects of the PSE programme were frequently not clear to students. There was also evidence suggesting that the time allocated to CEG was insufficient to meet the needs of all students (Morris *et al.*, 2001; Ofsted, 1995, 1998). In Wales, for example, the amount of time allocated to CEG in Year 9 was between two and 12 hours, averaging about four hours in the schools inspected (OHMCISW, 1997). Overall, the studies imply that more time allowed for CEG would have a more positive impact for young people. Indeed, Morris *et al.* (2001) identified best

¹ In a guidance community school, careers advisers are more actively involved in curriculum planning and review.

² Careers education was seen as the province of teachers in the school, while guidance primarily took the form of a careers service interview.

³ Following the extension of the non-statutory framework for the PSE curriculum area to include health education, PSE has become known as personal, social and health education (PSHE).

practice as being in schools which had a timetabled allocation of at least 50 minutes a week for the CEG programme for each of years 9, 10 and 11.

- Howieson and Semple (1996) report that young people's perceptions of career guidance and their willingness to make use of it depend largely on the individual responsible for the delivery. Although some pupils associate career guidance with individuals who are in trouble or who are perceived to be experiencing problems, the majority still felt strongly that career guidance should be available to all pupils. In the same study, pupils identified a need for more CEG. Pupils, including the more academically able, identified a need for greater contact with the careers service. However, careful consideration should be given to the timing of the intervention to ensure that young people receive the support they need well before the point at which they must make decisions about future educational and employment opportunities.
- From 1998, DfEE policy required careers services to focus the delivery of their guidance services more overtly on need. The particular aspects of need identified were derived from the social inclusion agenda and included low achievement, low aspiration, disaffection and unsuccessful progression to learning beyond 16. In order to facilitate this differentiation of their work, careers services were required to pay particular attention to the development of careers information and education in schools (DfES, 2001a). These initiatives have, in some cases, led to better provision for students who would previously have been lost in the system, according to Morris *et al.* (2001). However, the same study reports a number of difficulties arising from the introduction of the focusing agenda. Authors report a lack of awareness in schools of the role of personal advisors, the scope of Connexions and the implications for student support. Many schools were unable to accommodate necessary staffing and timetable changes, thereby putting pressure on the careers service to continue previous levels of school-based provision.

What is the impact of specific CEG programmes on the transition between KS 3 and KS 4 and on learning and development during KS 4?

The evidence suggests that young people's participation in specific CEG programmes or interventions can have a positive impact on the transition between KS 3 and KS 4. Three out of 10 studies examined the impact of specific CEG programmes on young people within the specified age range. Only one of these was judged to provide a high weight of evidence (Edwards *et al.*, 1999) and two a medium weight of evidence (Luzzo and Pierce, 1996; Peterson *et al.*, 1999).

- All of the above studies suggest that young people's career-related knowledge appears to be influenced positively by participation in specific CEG programmes.
- Edwards *et al.* (1999) report that the Real Game career exploration programme is an appropriate mechanism for use with young people in KS 3. The authors report that learning outcomes achieved after participation in the Real Game programme were consistent with career-related learning outcomes expected at KS 3. The research suggests that the use of such programmes enables young people to acquire the knowledge and skills to ease the transition process.

- According to one US study (Peterson *et al.*, 1999), there is a direct correlation between the level of career guidance interventions and the extent to which young people are able to prepare successfully for the transition to high school. The authors argue that, without at least some exposure to easily comprehensible print-based materials, many students risk choosing maths and science courses that are inappropriate for their career aspirations.
- Luzzo and Pierce (1996) suggest that students' readiness to make realistic educational and vocational decisions can be realised 'in a relatively brief period of time' after using computer-assisted careers guidance (CACG) systems, such as DISCOVER.

How does careers education and guidance affect the transition process and/or learning and motivation?

The studies identify a number of ways in which CEG can help to support young people through the transition from KS 3 to KS 4. At this stage of their education, young people are required to make important choices about their future. In order to make appropriate decisions, young people need to be aware of the implications for their future and develop certain skills, such as confidence. The evidence suggests that the provision of CEG at KS 3 may be critical to enabling young people to prepare for this transition. All the included studies provide some evidence to explain how aspects of CEG may positively or negatively affect the transition process.

- According to Morris *et al.* (1998), young people seemed more able to identify their strengths and weaknesses where they had taken part in a school curriculum that had enabled them to develop confidence, helped them to make satisfactory subject choices at Year 9, and given them some clear ideas about their future after the end of Year 11.
- However, the lack of a coherent strategy for CEG across the Key Stages in some schools may have a negative impact on the transition process (Ofsted, 1995). A significant amount of unsatisfactory practice was identified in Welsh schools (OHMCISW, 1997) at KS 3, especially in relation to the provision of information designed to enable pupils to take account of the career implications of their chosen courses in KS 4. The authors concluded that well-planned lessons, based on specified aims and objectives, give pupils a clear insight into the career choices available and the implications of these choices. However, the evidence suggests that, in many schools, insufficient time is invested in assisting pupils at KS 3 to identify and apply their individual strengths and aptitudes to subject choices. As a result, young people are at risk of making inappropriate subject choices which could have implications later on.
- Young people's career-related skills can be enhanced with the use of clearly targeted interventions, provided by informed guidance counsellors and school staff working in collaboration. The study by Peterson *et al.*, (1999) found a direct correlation between the level of career interventions and the degree to which participants were able to prepare successfully for the transition to high school.
- Students' readiness to make realistic educational and vocational decisions, and attitudes towards the career decision-making process, can be improved by using a CACG system, such as DISCOVER, according to Luzzo and Pierce (1996).

What factors modify the effects of careers education and guidance?

Careers education and guidance is just one of many factors that influence young people in transition between KS 3 and KS 4. Three key factors, other than CEG, are identified in the studies reviewed as influencing young people in transition: parents; socio-economic background; and gender.

- Ofsted (1998) refers to parents as a key influence on young people's choices. However, the same report indicates that, although parents are informed and involved in decisions associated with Year 9 options in the majority of schools, the skills and experience of parents are rarely used within CEG programmes.
- Evidence from the US identifies a need for both the support of parents and involvement in a comprehensive school-based career guidance programme that develops young adolescents' need for confidence around career-related competencies, such as career planning and occupational exploration (Turner and Lapan, 2002).
- Socio-economic background, associated with parental influence, is also identified as an important factor that modifies the affect of CEG. Morris *et al.* (1998) found that students in schools in areas of high urban deprivation, where a significant amount of effort had gone into raising opportunity awareness and developing transition skills, may not have a positive attitude towards guidance.
- There is some evidence to suggest that there is a need to address emerging gender issues in CEG provision. Morris *et al.* (1998) indicate that there may be gender differences in the ways in which resources are perceived and used by young people. Another study, carried out in the US (Turner and Lapan, 2002), identified gender and career gender stereotyping as a predictor of adolescents' interests in particular careers.

Strengths and limitations

Strengths

The systematic review process has enabled the review group to undertake an objective assessment of the available research to provide a sound evidence base for practitioners and policy-makers. The process has identified gaps in the research that are relevant for young people in transition from KS 3 to KS 4. The results raise concerns about the quantity and quality of published research that considers the impact of CEG delivered at this crucial stage for young people. Concerns about the transparency of methodologies in research reports have also been raised.

Limitations

The review group is aware that there may be studies which have not been identified. There is a possibility that unpublished reports and PhD theses may provide relevant research evidence, but these can be difficult to track down and costs may be prohibitive. It should also be noted that studies that are not written

in English may also provide insight into the impact of CEG on young people's transitions in education.

Difficulties were identified between the timing and writing of the protocol, and the practical application of protocol criteria to the review. In the future, this could be overcome by clarifying all research issues prior to finalising the protocol.

The systematic review identified some studies which, although highly relevant to the research question, had to be classified as being of a low weight of evidence on account of the lack of reported methodological processes, or because the methods were not very appropriate to the review question.

The conclusions that can be drawn from the review are limited due, at least in part, to the limited nature of the research available and the lack of differentiation in the research literature between CEG at KS 3 and KS 4. There is also a disadvantage common to systematic reviews in that, when changes in policy and practice do occur, it takes time for primary studies to be commissioned and completed, which in turn impacts on how quickly the results of any changes in policy or delivery can be incorporated into systematic reviews.

The review was, to some extent, limited by technical difficulties experienced in the early stage of the research process. The transparency of the process would have been improved by the provision of appropriate software and importation filters that would have eliminated the need for online screening. Thus, the review group would have been able to account for all studies that were excluded by title and abstract.

The terminology used by some authors can be misleading. For example, the unqualified use of the term 'significant' implies statistical significance. Therefore, caution is needed when interpreting the results of studies where authors are not explicit about the analysis of data. A further example is the use of the terms 'knowledge and skills'. In some cases, authors use these terms to describe particular pre-defined knowledge and skills that are subject to measurement in the studies. However, there are also cases where these terms are used generally with no qualification. Such instances lead to vague conclusions which can mislead the reader.

Implications

The systematic review process has identified both gaps in the research and shortcomings in the research evidence that are highly relevant to our review questions relating to young people in transition from KS 3 to KS 4. In particular, the impact of the recent rapid and far-reaching changes, including the careers service focusing agenda in the UK and the introduction of Connexions in England, have not been adequately covered in this review because of the lack of research evidence. The results raise concerns for policy-makers, practitioners, researchers and other end-users, about the quantity and quality of published research that considers the impact of CEG delivered at this crucial stage for young people. The lack of differentiation between CEG management and delivery at KS 3 and KS 4 is a particular concern. The lack of studies that highlight the differences between CEG at these Key Stages has serious implications as students' needs are very different at these transition points. The small number (n=2) of studies that were considered to provide high weight of evidence for this review means that conclusions must be tentative. However, the existing

evidence suggests that CEG can have a positive impact on the transition process for young people, if delivered appropriately by adequately trained staff across the Key Stages. This is particularly important in view of the decision to extend statutory provision of CEG to Year 7 and Year 8 from September 2004.

Implications for policy

Policy-makers need reliable evidence to inform the development of policies and demonstrate the effectiveness of policy decisions. However, the review reveals a number of gaps in the research available to inform such decisions. The following implications for policy-makers have been identified through this review:

- There is a lack of research evidence that provides high-quality, up-to-date evaluation of the impact of CEG delivered in schools or through external organisations.
- The majority of UK studies included in the review were carried out prior to the careers service focusing agenda in the UK and the introduction of Connexions in England. Although some studies refer to careers companies and partnerships, there seems to be little evidence about their effectiveness.
- Policy-makers commissioning research should address the current lack of differentiation between the management and delivery of CEG at KS 3 and KS 4 in research reports. Students have differing CEG needs at each Key Stage. How these needs are effectively met to support successful transitions should be highlighted in future research design.
- The lack of evidence suggests that more work is needed to assess the effectiveness of CEG during the transition from KS 3 to KS 4, in order to ensure that policy and practice have a sound evidence base. Policy-makers should consider reviewing funding mechanisms to facilitate research, publication, and dissemination of work in this important area.
- The evidence base of the OFSTED and Her Majesty's Inspectorate (HMI) studies was not included in the published report, which made it difficult to assess the reliability and validity of the findings. Therefore, it is suggested that a technical report be made available to supplement the main findings.

Implications for practice

It is equally important that practitioners and professional bodies have access to reliable research evidence on which to base their practice. In particular, the sharing of good practice is invaluable for those involved in the delivery of CEG. The lack of evidence resulting from this review highlights the need to develop a research culture within organisations to ensure that programmes and interventions are more closely monitored and evaluated. The implications of the review findings for practitioners are as follows:

- The reviewed studies have provided some evidence to suggest that clearly targeted interventions may ensure young people avoid inappropriate subject choices that may have serious implications for their future education and careers. Interventions should continue to be reviewed and evaluated through rigorous research and the findings disseminated. This will ensure that effectiveness is monitored and good practice is captured and shared.

- Practitioners should work with their practice community network to contribute to the sharing of best practice. Where necessary, practitioners should lobby professional bodies and policy-makers to improve provision for young people in transition.
- Research evidence to evaluate the impact of new approaches to CEG (such as distinctions between self-help, brief-assisted and intensive support), and new methods (including one-to-one, group work, and Information and Communications Technology (ICT)) is not apparent from this review. Practitioners should ensure that learning outcomes from the use of new approaches to CEG are evaluated, reported and disseminated within their practice communities.
- The review has identified some concerns about staff training and the lack of suitably qualified teachers to deliver careers education. However, there is limited recent research to provide evidence of the nature and the extent of this problem. Professional bodies and employers should support and encourage staff to enhance their capacity to deliver CEG.
- The review revealed evidence from one study to suggest that access to the careers library was 'poor' for a quarter of students. Again, there appears to be no recent evidence to suggest that the situation has improved. Practitioners should ensure that issues, such as students' access to resources, are monitored and that, where necessary, practices are reviewed.
- Students have identified a need for guidance well before the point at which they need to make decisions about their future. However, the evidence suggests that there may be a reluctance to approach staff for help, as guidance is perceived by some to be associated with having a problem. Practitioners should actively promote the value of CEG to students from Year 7 in order to raise their awareness of its potential benefits.
- The review identifies the lack of a coherent strategy for CEG across the Key Stages. This is shown to have a negative impact on the transition process. An approach to CEG which is based on identifying appropriate learning outcomes to meet students' differing needs at each KS, might support the transition process.
- Some unsatisfactory practice at KS 3 was identified by the review. The provision of information to enable pupils to take account of the career implications of courses at KS 4 is essential, especially in view of the 14 to 19 curriculum developments. Pupils can then apply their own individual strengths and aptitudes to subject choices. This should form a key aspect of CEG at KS 3.
- The review reveals concerns about students' needs to develop a better and more realistic understanding of the changing nature of the workplace and the implications for their own futures. The new 14 to 19 agenda makes this even more crucial and practitioners should work to ensure that this forms an important aspect of CEG.
- The review highlights that Year 11 students lack understanding of both post-16 GNVQ courses and the demands of 'A' level courses. A secure knowledge of all the post-16 options available and the implications of these for individual students is essential for realistic choices to be made.

- Parents are identified as key influences on young peoples' choices. The review finds that the skills and experiences of parents are rarely used within CEG programmes. Practitioners could usefully identify ways in which parents' contributions to CEG can be recognised and utilised more fully.

Implications for research

The results of this review also raise a number of key issues for researchers:

- Only two of the 10 studies in the review have been judged as providing a high weight of evidence relating to the impact of CEG on the transition from KS 3 to KS 4. In general there is a need for funding mechanisms to support high quality research into the impact of CEG. Specifically in some cases little information was provided on which judgments could be made about methodological issues, such as sampling, consent and analysis. Researchers should ensure transparency of methodologies and give due consideration to this in the execution and reporting of research projects.
- A number of studies were excluded as they did not provide sufficient differentiation between CEG at KS 3 and KS 4. Future research design and reporting should differentiate between Key Stages in order for conclusions to be made on the differing effectiveness of CEG at each KS. Students have differing needs at each KS and, therefore, appropriate curriculum and interventions are needed to meet these needs. Research findings should enable these to be clearly identified.
- Care should be taken to ensure that terms, such as 'significance', are not used indiscriminately. Authors should avoid the use of vague terms, such as 'knowledge and skills', without providing clear definitions for their readers.
- Researchers should, wherever possible, publish and disseminate their research findings across the policy-making and practice communities to ensure that evidence is accessible to users. Researchers should consult, and seek feedback from, end-users of the research.
- The student experience appears to be under-represented in the research evidence. Although some studies used focus groups with students, only one study allowed the student voice to be heard, by using quotations from respondents in the report. Researchers should, where possible, allow the student voice to be heard, by researching and reporting the student experience.
- More research is needed on actions and influences that impact on transitions across KS 3 to KS 4 to the point when decisions are imminent.
- The influences of 'internal' and 'external' factors on the outcomes of transitions need to be explored and assessed. In particular, the influences of external factors – such as parental involvement, socio-economic constraints, family relationships, support services and environmental factors – need to be considered when designing research studies.
- The review has identified that gender may be an important issue in two respects: first, it has been suggested that boys and girls make different use of careers resources; and second, there is some evidence in the US that

students' aspirations may be based on gender stereotyping. Research is needed to explore students' gender-based perceptions of particular careers.

1. BACKGROUND

'Transition' in the UK is characterised by a series of distinct phases within an educational context, which mark the boundaries between the end of one stage of education and the beginning of the next (Looker and Dwyer, 1998). Successful transition through the education system into FE, training and work is central to current government policies, designed to promote social inclusion as well as economic prosperity through competition and the development of labour market skills. However, by the end of 2000, the UK appeared to be falling behind its European neighbours. One in four 16 to 18 year-olds was not in education and training, which was below national averages reported by the OECD (Campbell *et al.*, 2002). This study found that, overall, the proportion of the workforce holding level 2 (equivalent of GCSE grades A-C) or level 3 (equivalent of A levels) qualifications in the UK is currently well below those in France and Germany. In England, the government set targets to increase the percentage of pupils gaining five or more GCSEs at Grades A* to C (or equivalent) from 50% in 2000 to 54% by 2004. The proportion of 19 year-olds achieving a level 3 qualification is expected to increase from 51% in 2000 to 55% in 2004 (DfES, 2001b). Access to high quality information, advice and guidance is integral to fulfilling these targets (DfES, 2003).

During transitional phases, perceived opportunities and threats are also likely to have a significant impact on young people's choices and decisions. For example, a study from further education emphasises the value of appropriate guidance to successful completion (Martinez and Munday, 1998) and research into under-represented groups in higher education (HE) emphasises the importance of access to information, advice and guidance (Clark, 2002; McGivney, 2000).

1.1 Aims and rationale for current review

The importance of the role of careers education (typically delivered through schools) and guidance (typically delivered with support from external organisations) in compulsory learning is increasingly being acknowledged by policy-makers. It can facilitate access to personal development; help and motivate and support learners; and play a vital part in assisting learners to make successful transitions from learning into employment, training or other educational opportunities. Recently, there has been growing pressure from the government on the UK CEG community, which has not traditionally had a strong research culture on which to base practice, to have access to up-to-date, valid and reliable evidence in order to demonstrate what works, what does not work and why. This review set out to address this issue by increasing the availability of research and sharing good practice.

The Transitions review group aims to contribute to the development of this evidence base by undertaking a systematic review of existing research evidence concerned with the distinct 'actions' and 'influences' that impact on transitions across KS 3 to 4, including CEG, leading to the point when choices and decisions are imminent.

The overall aim of the review is to identify the available research evidence in a systematic and objective way in order to ascertain the role and impact of CEG on

young people's transitions from KS 3 (ages 11 to 13) to KS 4 (ages 13 to 16).

The specific aims of this review are as follows:

- to conduct a systematic review of research evidence investigating the effects of careers education and guidance during KS 3 (ages 11 to 13) on the transition made by young people from KS 3 to 4 (age 13) and on young people's learning and development during KS 4 (ages 13 to 16)
- to assess the influence of 'internal' and 'external' factors on the outcomes of transitions, such as young people's motivation and capabilities, parental involvement, socio-economic constraints, demography, family relationships, support services and environmental factors
- to relate this to policy developments in CEG since 1995 in England, in order to assess their impact on practice within and outside schools
- to make recommendations based on these findings so that decisions on policy and practice can be evidence-based

1.2 Definitional and conceptual issues

There are differences of opinion concerning the terminology used to describe career-related activities. For the purposes of this review, the following definitions, taken from Ofsted, 1998, are used.

Careers education and guidance

Describes the total range of activities provided by schools to help students make informed choices and transitions affecting their future education, training and employment.

Careers education

Refers to the planned and co-ordinated programme of activities in the curriculum which help students to develop their knowledge and understanding, and their opportunities in education, training and employment. The programme will also help them to develop the skills necessary to obtain and handle information, be realistic about their personal capabilities and aspirations, and to make informed decisions about future career moves.

Career guidance

Refers to provision through which students are assisted in applying their knowledge, skills and information to make realistic choices and appropriate decisions about future options. Opportunities are provided for reviewing learning, assessing, setting new goals and recording achievements. Guidance may be provided through interviews and small-group work, including action planning and recording of achievement, which helps students to implement their personal career plans.

Transition

'Transition' in the UK is characterised by a series of distinct phases within an educational context, which mark the boundaries between the end of one stage of

education and the beginning of the next. Looker and Dwyer (1998) argue that

there is a need to test prevailing assumptions and models of transition as presented by mainstream education against the actual experience of the present generation of young people which is involved in the process. The Review group is interested in studies that concentrate on the distinct 'actions' and 'influences' that impact on transitions across KS 3 to 4, leading up to the point when choices and decisions are imminent.

Not all young people receive the same level of support and intervention in the form of careers curriculum, information, advice and guidance. This review includes evidence that examines the criteria for assessing the level of intervention required and whether these criteria are applied equally in mainstream schools.

1.3 Policy and practice background

There are at least three key factors influencing current policy developments: the curriculum, the careers and education provision and the points of delivery.

The curriculum

New, more flexible pathways through the educational system are envisaged at the transition to KS 4 (ages 13 to 16), leading to a wide range of choices and routes for young people as they move into the new 14 to 19 phase of education (DfES, 2003). As a result, practitioners may be required to help young people set longer-term learning goals beyond KS 4, assisting them to plan for progress throughout the entire 14 to 19 phase. This will occur within the context of new learning and progression opportunities in schools and colleges, training providers, and local employers (DfES, 2004).

The careers education and guidance provision

Careers education and career guidance policies have traditionally operated in parallel and sometimes in isolation of each other. Separate services to young people – careers services and the delivery of CEG within schools – has often led to incoherence in the aims and delivery of these different, yet inevitably related, services.

Early DfEE policy (DfEE, 1995; School Curriculum and Assessment Authority (SCAA), 1995) was based on an equal entitlement for all young people, ensuring as many students as possible had guidance leading to an action plan for their transition from Year 11. This approach was re-appraised in 1997 and thereafter, in light of government policy for social inclusion (DfEE, 1997a, 1997b).

The policy began to shift towards recognition that some young people required more help than others to make a satisfactory transition from Year 11. Careers services were required to analyse the needs of their area and to make proposals for a more differentiated range of activities. By 1998/1999, this policy developed more explicitly into an expectation that careers services would re-focus or focus their activities with young people on the basis of identified need (DfEE, 1999; Qualifications and Curriculum Authority (QCA), 1999). Guidance needs were closely connected with low levels of achievement in education, disaffection or exclusion from education, and non-participation in post-16 learning. The focusing of the Careers Service in England had a major impact on careers services and resulted in a differentiated service delivery model for young people. Major studies funded by the DfES to assess the impact of the focusing agenda revealed that the development of careers information and education in schools was patchy. As

a result, there was disparity of provision in schools with a widening of the gap between institutions with high quality CEG programmes and those where provision was poor. *A Review of Career Service Focusing in Schools* (DfES, 2001a) noted that a decrease of nearly 32% had occurred in the number of group sessions and individual interviews provided for students in education. The reduction in resources allocated to work in education amounted to between 15% and 25%, and, in some institutions, reductions were as much as 50%. This has also led to changes in the types of careers-related work and guidance.

The Connexions Service for young people aged 13 to 19 was introduced in April 2000. It was designed to help, support and guide young people through their teenage years with a new personal adviser network at the heart of the service. The service aimed to ensure that more young people accessed the services they needed, followed appropriate and high-quality learning opportunities, and made a successful transition from adolescence to adulthood and working life. This marked a significant shift in some of the underpinning organisational structures for supporting CEG. Connexions absorbed the duties of the careers service to promote CEG, but its activities focused far more on those young people most at risk of disengaging from learning. It was an inclusive, but differentiated, service, and this approach was applied across all its activities. Alongside this more focused agenda, Connexions was also expected to work in partnership to promote a more coherent structure of support for young people. This created considerable opportunities to 'join up' aspects of work-related learning/PSHE/citizenship, careers education and broader guidance activities, reducing duplication and increasing effectiveness.

The points of delivery

CEG became a statutory requirement for Years 9 to 11 (ages 13 to 16) from September 1998. This increased the responsibility on schools to provide a careers education curriculum, whilst formalising Careers Service access to young people within state-maintained education. From September 2004, CEG will be a statutory requirement for Years 7 to 11 (ages 11 to 16). CEG is delivered predominantly, though not exclusively, through PSHE, Citizenship and the non-statutory framework for careers education. New approaches to the delivery of CEG are being developed through 'self-help', 'brief staff-assisted' and 'intensive support' services for young people. A wide range of methods has been adopted, including one-to-one and group work interventions as well as ICT (i.e. websites) and local helplines (Sampson *et al.*, 2004).

1.4 Research background

The UK policy focus for guidance has consistently required individuals in transition to be matched with the 'right' education, training or jobs opportunities as quickly and efficiently as possible. However, the theory (known as 'trait and factor' theory⁴) informing this matching approach to guidance contains flaws. Scharf (1997) argues that there is little research supporting or refuting this as a viable theory of career development. Rather, the large amount of research that has been undertaken has related traits and factors to one another or has established the validity and reliability of measurements of traits and factors. Its usefulness in fluid labour market conditions has also been questioned, since matching assumes a degree of stability (Mitchell and

⁴ There are a number of 'trait and factor' theories suggesting that an individual's personality can be matched with particular occupations. For further details, see Brown *et al.* (1996) and Osipow and Fitzgerald (1996).

Krumboltz, 1996). The shortcomings of this theory in its application to women (Farmer, 1997) and minority ethnic groups (Leong *et al.*, 1998) have also been highlighted. In response to these growing criticisms of a matching approach to guidance, many other theories have been developed and critiqued. A variety of texts provide overviews and summaries of the main theories that have influenced practice (for example, Brown *et al.*, 1996; Osipow and Fitzgerald, 1996). Flores *et al.* (2003) provide a review of developments in 2002 in the career development literature which gives an indication of the vibrancy of the area.

1.5 Authors, funders and other users of the review

There are concerns within the guidance community, outlined and evidenced above, about the nature of research evidence to inform policy and practice. The review group and its advisory board represents practitioners, managers, academics and policy-makers to ensure that the current review considers the implications of the research findings in terms of the relevance and practical application for those responsible for strategic development and delivery. The constitution of the review group and the advisory group are set out in Appendix 1.1.

1.6 Review questions

The research question is considered within the context of the reform to secondary education as cited in *14 to 19: Opportunity and Excellence* (DfES, 2003):

What is the impact of CEG policies and practice during KS 3 (ages 11 to 13) on young people's transitions from KS 3 to KS 4 (at age 13) and on their learning and personal development during KS 4 (ages 13 to 16)?

Review question for the systematic map

What is the range of research literature describing the effects of careers education and guidance during KS 3 (ages 11 to 13) on the transition made by young people from KS 3 to 4 and on their learning and development during KS 4?

Review question for the in-depth review

What is the impact of CED during KS 3 (ages 11 to 13) on the transition made by young people from KS 3 to 4 and on their learning and development during KS 4?

Subsidiary questions

How does CEG affect the transition process and/or learning and motivation?
and

What internal and external factors modify the effects of CEG?

2. METHODS USED IN THE REVIEW

2.1 User involvement

2.1.1 Approach and rationale

This review focuses on the delivery of CEG with practical implications for teaching and learning. It was therefore important to include a range of users in developing the methods and focus of the review. The review group has also continued its efforts to improve access to young people, parents, teachers and other professionals through its established networks. Partnership agreements are established with a network of organisations, including HE institutions, Careers and Connexions services, which enable the group to work collaboratively with schools and community groups across the UK.

2.1.2 Methods used

The inclusion of users was done in three ways: Advisory Group of experts; network of associates; and user perspectives.

The Advisory Group, made up of individuals with experience and expertise in this area, helped the review group in various stages of the project. The group played a key role in formulating the research question for the in-depth review and was approached for help in locating relevant studies and identifying individuals who might contribute 'user perspectives'.

The review group also had access to a large pool of Research Associates, many of whom are practitioners (careers educationalists and Ofsted inspectors) and researchers. Their help was sought in constructing the protocol and, to some extent, assisting with searches.

Both the Advisory Group and the associates were approached to suggest users of the review who would be willing to contribute their views in response to the final review report.

2.2 Identifying and describing studies

The first stage of the review involved the identification of papers that investigated the effect of careers education during KS 3 on the transition to KS 4 and/or on the young person's learning and development. Potentially relevant papers were identified through electronic databases, handsearches, citations, websites and personal contacts, and entered into a bibliographic database (DB1). These papers were then screened against inclusion criteria by (i) title and (ii) abstract. Papers appearing to meet the inclusion and exclusion criteria were obtained and entered into a second database (DB2). The 'inclusion' and 'exclusion' criteria were then applied to the full-text documents. Studies meeting the 'inclusion' criteria were then keyworded, using the EPPI-Centre standardised keywording strategy (EPPI-Centre, 2002a) with additional review-specific keywords. Included studies were coded and stored in a third database (DB3).

2.2.1 Defining relevant studies: inclusion and exclusion criteria

The inclusion and exclusion criteria are set out below and a fuller version can be found in Appendix 2.1.

Inclusion criteria

Studies were ***included*** that met ***all*** of the following criteria:

- They focus on CEG delivered either within, or external to, school for young people during KS 3.
- They include outcomes relating to the young person as they approach the transition or during the transition to KS 4 or on student development and learning during KS 4.
- They are written in English.
- They are based on empirical data.
- They were conducted after 1988.

Exclusion criteria

Studies were ***excluded*** that met ***any*** of the following criteria:

- They are *only* concerned with the impact of the general curriculum at KS 3.
- They are *only* concerned with the role of CEG in transition at KS 2 or KS 4.
- They are *specifically* about school transfer.
- They are *specifically* related to Citizenship. (*A separate EPPI-Centre Review group is already working on this topic.*)
- They only measure outcomes after the end of KS 4 (age 16).
- They are not written in English.
- They were conducted before 1988.
- They are not empirical (for example, they are based on theoretical discussion, rhetoric or single person opinion).

2.2.2 Identification of potential studies: search strategy

The following sources of research literature were explored to identify studies relevant to the research question:

- Electronic databases
- Journal publishers' web pages
- Handsearching of key journals
- Scanning reference lists of already identified reports
- Direct requests from educational research institutions and other key informants
- Reference list of key authors/papers

- References on key websites
- Citation searches from already identified sources
- Personal contacts
- Subject information gateways

Search strategy for electronic databases

The rationale for the search strategy was formulated following extensive consultation with members of the Advisory Group and members of staff at the EPPI-Centre.

Terms for searching electronic databases included the following sets of criteria in combination. Further details can be found in Appendix 2.1. Table 2.1 outlines a set of agreed free-text terms that were applied to databases that have no classification system, such as subject headings:

1. Terms to indicate that a study is about careers education and guidance policies and practices
2. Terms to indicate that a study is about young people in the 11 – 16 age range in educational transition

In addition to free text terms, the subject/thesaurus indexes of each electronic database were utilised in order to take advantage of the classification system of the specific databases and to increase the chances of identifying papers of interest.

Table 2. 1: Free-text terms

Careers Education and Guidance Practice	Transitions of young people aged 11 to16
Application skills	Career aspirations
Assessment profile	Career choices
Be Real	Career development
Career Adviser	Career decisions
Careers education and guidance	Career progression
Careers education and guidance policy	Comprehensive education
Careers information	Education Action Zones
Careers interview	Elementary secondary education
Careers library	GCSE/GNVQ/NVQ decisions
Careers management	Grade 7, 8, 9, 10, 11, 12
Career paths	High school
Careers service	High school freshman
Connexions service	Intermediate grades
CV skills	Junior high schools
Guidance interview	Junior high school students
Individual development/education plan	Key skill attainment
Make It Real	Key Stage 3
Personal Adviser	Key Stage 4
Personal Careers Action Plan	Key Stage 3 to Key Stage 4
Progress file	Middle school
Student Profiling	Middle school students
The Real Game	Preparation for GSCE
Transition planning	Secondary education

Careers Education and Guidance Practice	Transitions of young people aged 11 to16
CEG curriculum	Secondary schools
Careers co-ordinator	Subject options
Careers teacher	Vocational high schools
Record of Achievement	Year 7 & 8, 9, 10, 11

2.2.3 Screening studies: applying inclusion and exclusion criteria

At the time of screening studies and applying inclusion criteria, reference management import filters for the new Dialog system had not been created. To avoid manually inputting large numbers of references online, screening of reports by title and abstract was undertaken before relevant articles were entered onto reference management software.

Inclusion and exclusion criteria were applied successively to the titles and abstracts of papers in the first database. For each paper, all the criteria against which it failed were recorded, so criteria were not applied hierarchically. For those papers appearing to meet the inclusion criteria or where there was insufficient information to make a judgement, full-text documents were ordered. These references were entered in to a second database. The inclusion and exclusion criteria were then re-applied to the full reports and those that did not meet these initial criteria were excluded.

2.2.4 Characterising included studies

The studies remaining after application of the criteria were keyworded, using the EPPI-Centre core *Keywording Strategy* (EPPI-Centre, 2002a). Additional keywords specific to the context of the review were added to those of the EPPI-Centre (Appendix 2.4.1). All the keyworded studies have been added to the EPPI-Centre's REEL, for others to access via the website.

The core *Keywording Strategy* was used to code studies according to the country in which the study was carried out, the population studied, the age and sex of learners, and the study design.

Review-specific codes were used to categorise types of CEG intervention, delivery of CEG, modes and place of delivery, outcomes measured, point at which outcomes were measured, guidance recipients, recipients' sex and ethnic origin, and key influences on decisions. These were used to produce a descriptive map of all studies meeting the inclusion criteria.

2.2.5 Identifying and describing studies: quality-assurance process

The screening of studies by abstract and title was undertaken by members of the review group independently and then cross-checked within the team. A selection of studies (n=40) was also screened by a member of staff from the EPPI-Centre. At every stage of the screening process – application of criteria and keywording – results were moderated within the review group and with EPPI-Centre staff. EPPI-Centre staff also keyworded a sample of 14 reports to ensure consistency of the process.

2.3 In-depth review

2.3.1 Moving from broad characterisation (mapping) to the in-depth review

The specificity of the inclusion criteria resulted in only a small number of studies being identified, therefore all studies in the descriptive map were also included in the in-depth review.

2.3.2 Detailed description of studies in the in-depth review

The EPPI-Centre standardised set of data-extraction guidelines was applied to all studies meeting our inclusion criteria (EPPI-Centre, 2002b). These guidelines enabled the review group to assess the design and findings of studies. The 'weight of evidence' for addressing the review question was judged as high, medium or low quality according to a further set of guidelines (see section 2.3.3 below). Findings of the studies were synthesised according to the theoretical framework underpinning the review strategy.

2.3.3 Assessing quality of studies and weight of evidence for the review question

Three components were identified to help in making explicit the process of apportioning different weights to the findings and conclusions of different studies. These weights of evidence are based on:

- (i) the soundness of studies (internal methodological coherence), based upon the study only (A)
- (ii) the appropriateness of the research design and analysis used for answering the review question (B)
- (iii) the relevance of the study topic focus (from the sample, measures, scenario, or other indicator of the focus of the study) to the review question (C)
- (iv) An overall weight (D) taking into account (i), (ii) and (iii).

In order to arrive at weight of evidence D, an average of A, B and C was assessed to reach an overall judgement.

2.3.4 Synthesis of evidence

The data were synthesised according to themes that relate to the underlying concepts of the review question and sub-questions;

- What is the impact of general provision of CEG on the transition between KS 3 and KS 4 and on learning and development during KS 4?
- What is the impact of specific CEG programmes on the transition between KS 3 and KS 4, and on learning and development during KS 4?
- How does CEG affect the transition process and/or learning and motivation during KS 4?
- What internal and external factors modify the effects of CEG?

2.3.5 In-depth review: quality-assurance process

Data-extraction and assessment of the weight of evidence brought by the study to address the review question was conducted by pairs of review group members working first independently, and then comparing their decisions and coming to a consensus. Members of the EPPI-Centre also assisted in data-extracting a sample of five studies.

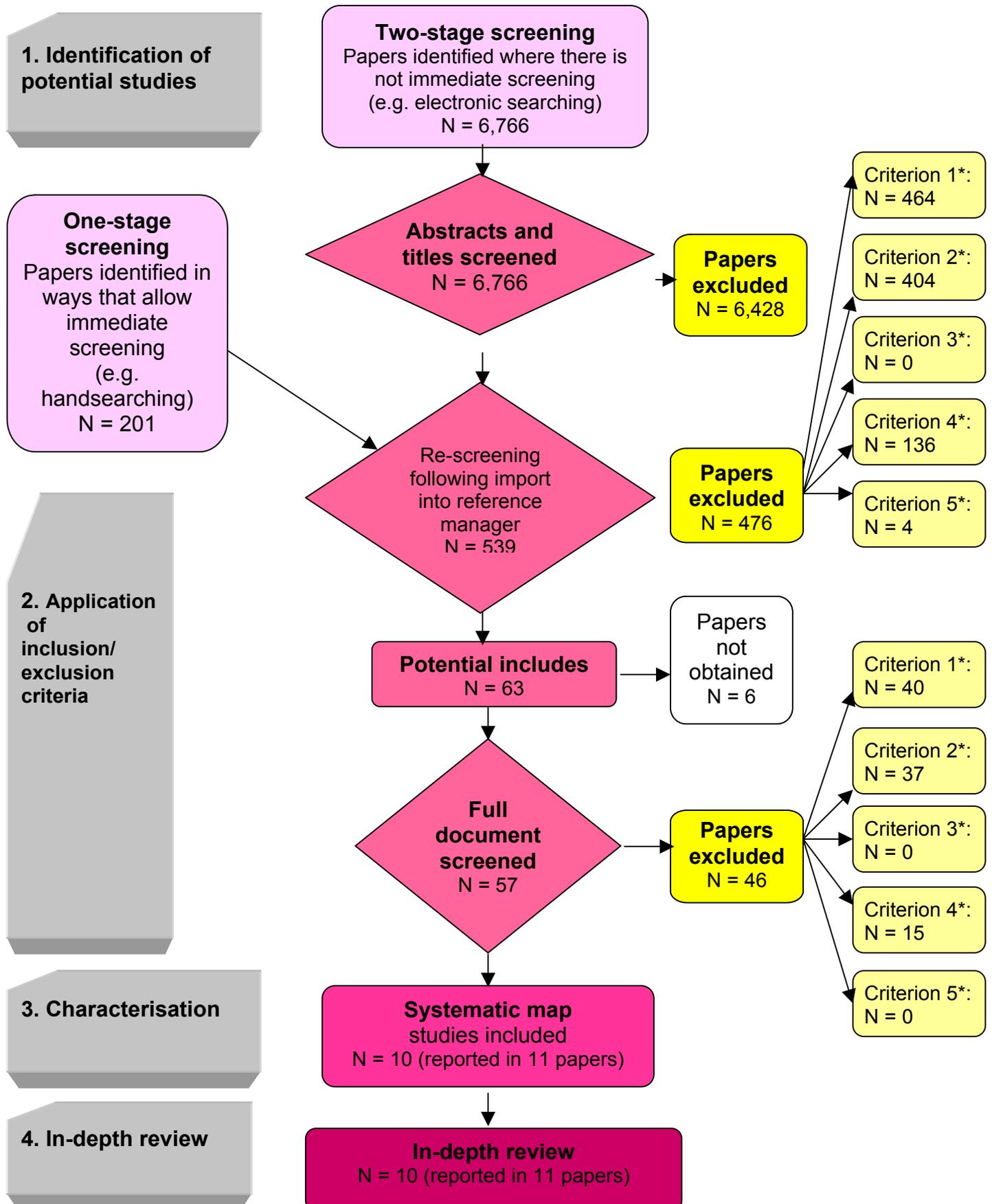
3. IDENTIFICATION AND DESCRIPTION OF STUDIES: RESULTS

3.1 Studies included from searching and screening

The review group used a range of sources to identify studies. A total of 6,766 papers were identified through electronic searching. Of these, 6,428 papers were excluded on the basis of title and abstract through online screening. Two hundred and one papers were identified through handsearching which, together with the 338 remaining electronically-searched papers, were then entered into reference management software and screened by title and abstract. Thus a total of 539 papers were identified as being potentially relevant to the research question.

Screening by abstract and title, using the inclusion and exclusion criteria (see key to Figure 3.1 below), resulted in 63 potential includes. Of these, a total of 57 papers were screened by the full document. The remaining six papers were not obtained during the timeframe of the review. Forty-six of the 57 papers screened were excluded and one study was found to be reported in two documents. Therefore, 10 studies (reported in 11 documents), were included in the systematic map.

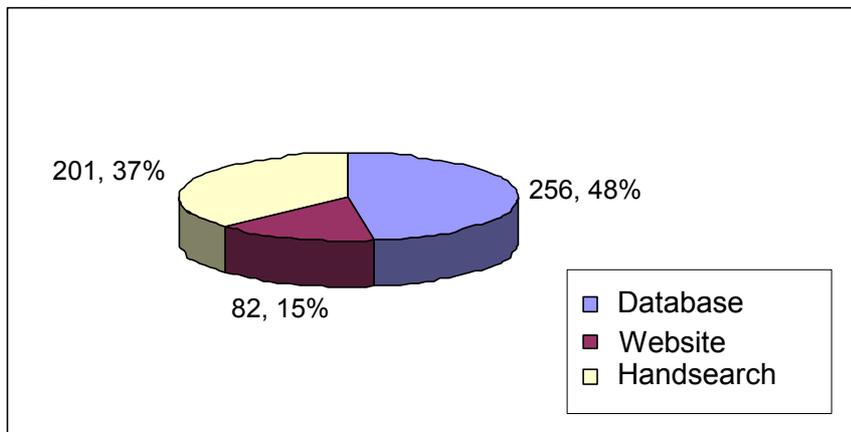
Figure 3.1: Flow of literature through searching and screening process
**criteria are not mutually exclusive*



Key to Figure 3.1:

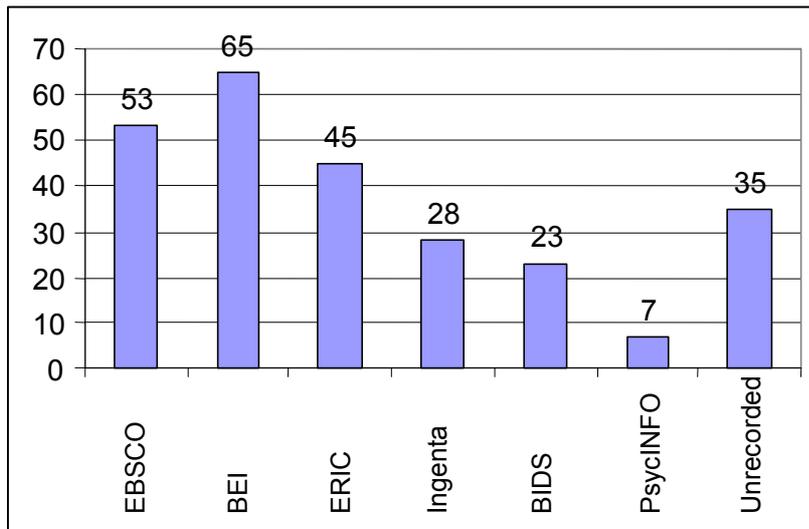
Criteria
1. Focus on CEG during KS 3
2. Outcomes measured approaching or during KS 4
3. Written in English
4. Based on empirical data
5. Conducted after 1988

Of the 539 potentially relevant studies, 63% were found using electronic searches (48% databases (n=256) and 15% websites (n=82)). Handsearching yielded a further 37% (n=201) of potential 'includes' (Figure 3.2).

Figure 3.2: Sources (N = 539 reports)*

*Codes are mutually exclusive.

The most fruitful database was the British Education Index (BEI) which yielded 65 potential reports (Figure 3.3). This was closely followed by EBSCO which resulted in 53 potentially relevant documents. The Educational Resources Information Center (ERIC) was also a useful source of literature which yielded 45 reports. Searches on other databases (such as Ingenta, Bath Information and Data Services (BIDS) and PsycINFO) were slightly less productive. Further information about the databases can be found in Appendix 2.2.1. Due to staff changes, the source of 35 studies was unrecorded but it is thought to be the result of searches on the Heritage library database, held at the Centre for Guidance Studies and based at the University of Derby.

Figure 3.3: Electronic databases (N = 256 reports)*

*Codes are mutually exclusive.

Clearly the DfES website search proved to be a worthwhile source, yielding 39 potentially relevant reports. The Connexions website resulted in 16 potential reports for inclusion. Academic research available on websites also produced worthwhile results, as did searches of academic journal websites (Table 3.1).

Table 3.1: Websites (N = 82 reports)

Website	Number
www.dfes.gov.uk	39
www.nfer.ac.uk	3
www.connexions.gov.uk	16
www.scre.ac.uk	2
www.nacgt.org.uk	3
www.qcashop.org.uk	2
www.gla.ac.uk	1
www.crac.org.uk/nicec	9
www.taylorandfrancis.metapress.com	4
www.mori.com	1
www.academicpress.com	1
www.routledgefalmer.com	1

*Codes are mutually exclusive.

Of the studies included in the systematic map (n=10), only three were located using electronic databases and seven were the result of handsearching (Table 3.2). There may be implications for practitioners in terms of accessibility to relevant research evidence to inform practice.

Table 3.2: Source of included studies (N=10)

Source of included study	Number
Handsearch	7
Electronic database	3
Total (mutually exclusive)	10

3.2 Characteristics of the included studies

The characteristics of the included studies are described in this section under the following headings: the country in which the study was carried out; the focus of the study; curriculum area and, where appropriate, the programme name; the population focus of the study; the age and sex of learners; educational settings; and methodological characteristics. Further details of the studies in the systematic map are shown in Appendix 3.1.

3.2.1 Country in which the study was carried out

The majority of studies (n=7) were carried out in the UK. Of these, five were specific to England, one to Wales and one to Scotland. Only three studies were found that were not UK-based and these were carried out in the US (Table 3.3).

Table 3.3: Number of included studies by country (N = 10)

Country	Number
UK	7
USA	3
Total (mutually exclusive)	10

3.2.2 Funders

All the UK studies were government funded. In the three US studies, it was not made explicit as to how they were funded (Table 3.4).

Table 3.4: Number of included studies by funding sources (N = 10)

Funding source	Number
Not stated/unclear (US Studies)	3
DfES (English studies)	1
DfEE (English studies)	2
Scottish Office Education and Industry Department (SOEID) (Scottish study)	1
Government funding (English and Welsh studies)	3
Total (mutually exclusive)	10

3.2.3 Focus of the study

The majority of the studies (n=8) had a curriculum focus (e.g. learners' knowledge and awareness of secondary school curriculum). Similarly, the majority (n=8) focused on teaching and learning. Other foci included the effect of careers interventions on educational choices and general provision of CEG in secondary schools (Table 3.5).

Table 3.5: Number of included studies by study focus (N = 10 studies)

Study focus*	Number
Curriculum	8
Teaching and learning	8
Other topic focus	5

*Categories are not mutually exclusive.

3.2.4 Curriculum area and specific programmes

The curriculum area focus for half the studies (n=5) was PSE. This is not surprising as it is common practice for delivery of CEG to be organised in schools as part of a PSE programme. In the main, 'other' curriculum areas included studies with a broad focus on CEG provision in schools (Ofsted, 1998; OHMCISW, 1997) (Table 3.6).

Table 3.6: Number of included studies by curriculum focus (N = 10 studies)

Curriculum focus*	Number
General	1
PSE	5
Vocational	1
Other curriculum	8
The material does not focus on curriculum issues	2

*Categories are not mutually exclusive.

3.2.5 Population focus of the study

Studies focused on learners in every case but there is a degree of overlap in cases that also covered teaching staff (Edwards *et al.*, 1999; Morris *et al.*, 2001; Ofsted, 1995, 1998; OHMCISW, 1997); senior management (Morris *et al.*, 2001; Ofsted, 1998; OHMCISW, 1997); and parents (Ofsted, 1998; OHMCISW, 1997). The Ofsted survey (1998) also included industry and the wider community (Table 3.7).

Table 3.7: Number of included studies by population focus (N = 10 studies)

Population focus*	Number
Learners	10
Senior management	3
Teaching staff	5
Parents	2
Other population focus	1

*Categories are not mutually exclusive.

3.2.6 Age and gender of learners

All the included studies focused on learners aged 11 to 16 (n=10) and two also included sixth-form learners aged 17 to 20 (Table 3.8). This reflects the nature of the review question and its focus on young people aged 11 to 16. Studies coded 17 to 20 reflect the evaluation of broad provision of CEG. All included studies focused on both female and male learners.

Table 3.8: Number of included studies by age of learners (N = 10 studies)

Age of learners*	Number
11 to 16	10
17 to 20	2

*Categories are not mutually exclusive.

3.2.7 Educational settings

The majority (n=9) of included studies focused on CEG in secondary schools, although other settings were covered in three studies: a special needs school (Ofsted, 1998), a Development Research School (Peterson *et al.*, 1999) and a middle school (Luzzo and Pierce, 1996) (Table 3.9).

Table 3.9: Number of included studies by educational setting (N = 10 studies)

Educational setting*	Number
Secondary school	9
Special needs school	1
Other educational setting	1

*Categories are not mutually exclusive.

3.2.8 Methodological characteristics

The results show that there was a degree of overlap between study types. The explanation for this is that some studies were considered to fall into more than one category. Of the evaluations of naturally-occurring interventions, four were also considered to be descriptive (Howieson and Semple, 1996; Morris *et al.*, 2001; Ofsted, 1998; OHMCISW, 1997). Of the two explorations of relationships, one was considered also to be descriptive (Ofsted, 1995) and one was coded as purely an exploration of relationships (Turner and Lapan, 2002). Two studies were coded as purely evaluations of researcher-manipulated interventions (Luzzo and Pierce, 1996; Peterson *et al.*, 1999). The Edwards *et al.* study (1999) was classified as an evaluation of both a researcher-manipulated and a naturally-occurring intervention (Table 3.10).

Table 3.10: Number of included studies by study type (N = 10 studies)

Study type*	Number
Description	5
Exploration of relationships	2
Evaluation: Naturally-occurring	6
Evaluation: Researcher-manipulated	3

*Categories are not mutually exclusive.

3.2.9 Types of intervention

In terms of the types of intervention measured in studies (Table 3.11), one attempted to measure the impact of the guidance interview, whilst focusing on careers lessons and CEG provision in general, and another on the assessment profile, which included career interest inventories and other aspects of CEG such as job-shadowing; occupational outlooks; salary levels; labour market access; work activities; working conditions; and educational requirements. Ten 'other' types of intervention were the foci of the included studies, which can be broadly grouped as general provision (n=6 studies) and specific CEG interventions (n=3 studies).

Table 3.11: Number of included studies by intervention type (N =10 studies)

Type of intervention*	Number
Guidance interview	1
Assessment profile	1
Other	10

*Categories are not mutually exclusive.

General provision of CEG

Six studies were included that attempted to assess general provision of CEG in secondary schools and its effectiveness. Of these, two were carried out by Ofsted (1995, 1998) and one by the OHMCISW (1997). Other studies taking a broad view of CEG include two carried out by the National Foundation for Educational Research (NFER) (Morris *et al.*, 1998, 2001). One other, that focused on the student experience of guidance, was undertaken in Scotland and funded by the Scottish Office (Howieson and Semple, 1996).

Specific CEG interventions

Three studies focused on specific CEG programmes: the Real Game Career Exploration Programme (Edwards *et al.*, 1999), DISCOVER (Luzzo and Pierce, 1996) and a three-stage careers education programme, that included a computer-assisted classroom intervention (Peterson *et al.*, 1999).

3.2.10 Delivery of CEG

In some studies, the staff involved in the delivery of CEG fell into more than one category. In half of the studies (n=5), school teaching staff delivered the CEG (Ofsted, 1995, 1998; OHMCISW, 1997; Peterson *et al.*, 1999; Turner and Lapan, 2002). Careers co-ordinators delivered CEG in four out of 10 studies (Morris *et al.*, 2001; Ofsted, 1995, 1998; OHMCISW, 1997) and the 'Careers Teacher' delivered CEG in four out of 10 studies (Edwards *et al.*, 1999; Howieson and Semple, 1996; Ofsted 1995, 1998). Five 'others' include the 'school counsellor' (Luzzo and Pierce, 1996; Peterson *et al.*, 1999), or sometimes the role was shared and involved other colleagues with a responsibility for PSE or a local careers adviser (Edwards *et al.*, 1999). In the two other studies where the focus was on general provision of CEG, it was not made explicit who else may have been involved in its delivery or whether the deliverers of CEG were internal or external to the school (Howieson and Semple, 1996; Morris *et al.*, 1998) (Table 3.12).

Table 3.12: Number of included studies by CEG delivery staff (N = 10 studies)

CEG delivery staff*	Number
Careers Co-ordinator	4
Careers Teacher	4
Careers Advisor	2
School teaching staff	5
Other	5

*Categories are not mutually exclusive.

3.2.11 Mode of delivery

The results demonstrate that, in the majority of studies, CEG was delivered in the classroom (Edwards *et al.*, 1999; Howieson and Semple, 1996; Morris *et al.*, 2001; Ofsted, 1998; OHMCISW, 1997; Peterson *et al.*, 1999; Turner and Lapan,

2002). Face-to-face delivery, small groups and delivery in resource centres were not widely covered. The use of careers software was covered by two studies (Luzzo and Pierce, 1996; Peterson *et al.*, 1999) (Table 3.16). Modes of delivery coded as 'other' include: general provision, where authors did not specify modes of delivery (Morris *et al.*, 1998, 2001; Ofsted, 1995); and specific aspects of CEG, such as job-shadowing (Turner and Lapan, 2002) (Table 3.13).

Table 3.13: Number of included studies by mode of delivery (N = 10 studies)

Mode of delivery*	Number
Face-to-face	2
Small groups	1
In the classroom	7
Careers resource centres	1
Careers software	2
Information packs	1
Other	4

*Categories are not mutually exclusive.

3.2.12 Measurement of outcomes

In every study, outcomes were measured at KS 3 or KS 4. In one study, measurement took place at the point of leaving school for some, but not all, learners involved (Howieson and Semple, 1996). The 'other' code was used to code one study where outcomes were measured immediately after the CEG intervention (Turner and Lapan, 2002) (Table 3.14).

Table 3.14: Number of included studies by point of outcome measurement (N = 10 studies)

Point of outcome measurement*	Number
KS 3 (age 11 to 13)	8
KS 4 (13+ to 16)	9
At point of leaving school	1
Other	1

*Categories are not mutually exclusive.

3.2.13 Guidance recipients

In every study, the guidance recipients included learners aged between 11 and 16 years, reflecting the relevance of the included studies to the research question. Studies that focused on CEG across the Key Stages can account for the overlap (Table 3.15).

Table 3.15: Number of included studies by age of guidance recipient (N = 10 studies)

Age of guidance recipient*	Number
KS 3 students (11 to 13)	4
KS 4 students (13+ to 16)	2
Students 11 to 16	6

*Categories are not mutually exclusive.

3.2.14 Key influences on decisions

According to four of the included studies, teachers were deemed to be a key influence on learners' decisions (Howieson and Semple, 1996; Morris *et al.*, 1998; Ofsted, 1995, 1998), as were careers advisers (Howieson and Semple, 1996; Morris *et al.*, 1998; Ofsted, 1998) and personal advisers (Morris *et al.*, 1998). Parents were key to decision-making in three out of the 10 studies (OHMCISW, 1997; Ofsted, 1995; Turner and Lapan, 2002). Key influences were not covered in two of the studies. Other influences include the type of intervention received (Peterson, 1999) and links with industry, FE and HE institutions, career companies and teacher secondments in industry (OHMCISW, 1997) (Table 3.16).

Table 3.16: Number of included studies by key influence on decisions (N = 10 studies)

Key influences on decisions*	Number
Parents	3
Teachers	4
Careers advisers	3
Personal advisers	1
Other	4

*Categories are not mutually exclusive.

3.3 Quality-assurance

EPPI-Centre staff screened a sample of 40 citations (0.6%) against the inclusion and exclusion criteria, and keyworded a sample of 14 studies in the systematic map, some of which were subsequently excluded. Disagreements and inconsistencies were minor, focusing on the topic focus of the study; they were resolved through discussion.

4. IN-DEPTH REVIEW: RESULTS

This chapter outlines further characteristics of the studies in the in-depth review, including quality judgements. It then synthesises the data from the studies in terms of the nature of the CEG, and its impact and the factors influencing young people in transition, before describing the results from quality-assurance procedures and the user-involvement in the review.

The inclusion of studies in the in-depth review depended on a set of key criteria. They had to focus on CEG delivered either within, or external to, school during KS 3. The outcomes had to relate to young people as they approach, or during, the transition to Key Stage 4, or on student development and learning during KS 4. Other criteria for inclusion were that the studies should be based on empirical data, be written in English, and have been conducted after 1988. Studies could be carried out in any country. All 10 studies that were included in the systematic map are also included in the in-depth review. Citation details of the studies can be found in Chapter 6.

4.1 Further details of studies included in the in-depth review

Although the majority of studies were carried out in the UK, three US studies (Luzzo and Pierce, 1996; Peterson *et al.*, 1999; Turner and Lapan, 2002) were also included. The review was primarily concerned with the impact of CEG on young people's transitions at ages 13 to 16, which in the UK is characterised as KS 3. Although the local and national context of the research must be taken into account when considering the weight of evidence in relation to the review question, studies undertaken outside of the UK provide important insights into the impact of interventions during this period in a young person's development and were, therefore considered, highly relevant.

The majority of the included studies were carried out in the 1990s (n=8) and therefore pre-date the rapid and far-reaching changes, such as the focusing agenda (UK) and the introduction of Connexions (England). Of the two more recent studies included, one was carried out in the US (Turner and Lapan, 2002) and the other in the UK (Morris *et al.*, 2001).

Table 4.1: Curriculum area by delivery of CEG (N = 10 studies)*

Delivery	General	PSE	Vocational	Other curriculum	The material does not focus on curriculum issues
Careers co-ordinator	0	2	0	4	0
Careers teacher	0	2	0	4	0
Careers advisor	0	1	0	2	0
Personal advisor	0	0	0	0	0
School teaching staff	1	1	1	4	1
Parents(s)	0	0	0	0	0

Government	0	0	0	0	0
Other	1	3	1	4	1

*Categories are not mutually exclusive.

Table 4.1 shows the extent to which studies focused on the curriculum and the staff involved in the delivery of CEG. CEG was delivered as part of the PSE curriculum by a range of staff, including careers co-ordinators, careers teachers, careers advisers and other school teaching staff. Studies coded “other” deliverer of CEG included school counsellors (in the US), or where the role was shared or unspecified. Vocational curriculum included work experience and, in the case of the Peterson *et al.* study (2002), awareness of the high school curriculum. The ‘other’ curriculum category was used mainly for general CEG provision. The involvement of personal advisers, the government and parents was not generally made explicit.

Table 4.2: Data-collection methods by details of methods/tools (N = 10 studies)*

Details	Group interview	One-to-one interview	Observation	Self-completion questionnaire	Practical test	Psychological test	School/college records	Secondary data	Other document
Explicit	1	4	2	6	1	1	2	2	3
Implicit	1	0	0	1	0	0	1	1	1
Totals	2	4	2	7	1	1	3	3	4

*Categories are not mutually exclusive.

In most studies, the authors were explicit in stating the methods used for data collection (n=8 studies). The categories are not mutually exclusive because, in some studies, a mix of methods was used (shown in Table 4.2). Self-completion questionnaires were most commonly used to collect data from respondents (n=7 studies). One-to-one interviews were used in four studies. Others were based on school/college records, such as attendance records (n=3 studies); secondary data, such as publicly available statistics (n=3 studies); and other documentation (n=4 studies). Practical tests were used in one study and psychological tests in one other. Other methods – such as curriculum-based assessment, focus groups, self-completion diaries, exams, clinical tests, hypothetical scenario including vignettes – were not used at all.

4.1.1 Weights of evidence

The quality of studies in the in-depth review was varied (Table 4.3). The majority of studies were judged as having medium to high relevance for addressing the research questions, but several lost ground on the basis of the execution and appropriateness of research design and analysis for addressing the question, or sub-questions, of this specific systematic review. Overall, two studies were judged as providing a high weight of evidence (Edwards *et al.*, 1999; Howieson and Semple, 1996). The majority of studies (n=7) were judged as providing a medium weight of evidence (Luzzo and Pierce, 1996; Morris *et al.*, 1998, 2001; Ofsted, 1995; OHMCISW, 1997; Peterson *et al.*, 1999; Turner and Lapan, 2002). One study was deemed to provide a low weight of evidence (Ofsted, 1998). The review group agreed that the earlier Ofsted study (1995) provided more detail about the methodology than the later study (Ofsted, 1998), which accounts for the difference in weights of evidence judgments.

Table 4.3: Judgments of the weights of evidence in the studies

A systematic review of recent research (1988 – 2003) into the impact of careers education and guidance on transitions from Key Stage 3 to Key Stage 4

Study	Country	Weight of evidence A	Weight of evidence B	Weight of evidence C	Weight of evidence D
Edwards <i>et al.</i> (1999)	UK	High	High	High	High
Howieson and Semple (1996)	UK	High	Medium	High	High
Luzzo and Pierce (1996)	US	Medium	Medium	Medium	Medium
Morris <i>et al.</i> (1998)	UK	Medium	Medium	Medium	Medium
Morris <i>et al.</i> (2001)	UK	Medium	Medium	Medium	Medium
Ofsted (1995)	UK	Low	Medium	Medium	Medium
Ofsted (1998)	UK	Low	Low	Medium	Low
OHMCISW (1997)	UK	Medium	Low	High	Medium
Peterson <i>et al.</i> (1999)	US	Medium	Medium	High	Medium
Turner and Lapan (2002)	US	Medium	Medium	Medium	Medium

4.2 Synthesis of evidence

The synthesis of evidence is based on emerging themes from the review which correspond to the review question and sub-questions:

What is the impact of careers education and guidance during KS 3 (ages 11 to 13) on the transition made by young people from KS 3 to KS4 and on their learning and development during KS 4?

- *How does careers education and guidance affect the transition process and/or learning and motivation?*
- *What internal and external factors modify the effects of careers education and guidance?*

In considering the impact of CEG, the synthesis is divided into two sections, one considering the impact of *general* programmes of CEG (n=6 studies; section 4.2.1.1) which includes studies evaluating governmental initiatives or whole school provision, and *specific* programmes of CEG (n=3 studies; section 4.2.1.2) which includes those studies that evaluated a particular CEG intervention.

Of the 10 studies in the in-depth review, one study (Turner and Lapan, 2002) is only included in the section considering the factors that modify the effects of careers education programmes (4.2.2.2). This study included and measured outcomes of a careers education programme but did not present findings in the report write-up, focusing instead on the modifying effects which helped predict the outcomes of the programme in addition to the careers education intervention. Therefore only nine studies are drawn on in answering the overall research question and the first sub-question.

4.2.1 What is the impact of CEG during KS 3 on the transition between KS 3 and KS 4, and on learning and development during KS 4?

4.2.1.1 What is the impact of *general provision* of CEG on the transition between KS 3 and KS 4, and on learning and development during KS 4?

Six UK studies focused on the quality of general provision of CEG in schools. Only one study was judged as providing a high weight of evidence (Howieson and Semple, 1996). Four were judged to provide a medium weight of evidence (Ofsted, 1995; OHMCISW, 1997; Morris *et al.*, 1998, 2001) and one was judged as providing a low weight of evidence (Ofsted, 1998). The majority of these studies were government-funded and had broad aims, mainly relating to the quality of teaching and learning in CEG in secondary schools. One study focused on student perceptions of guidance in Scottish schools (Howieson and Semple, 1996) and three aimed to evaluate the impact of government initiatives (Ofsted, 1998; Morris *et al.*, 1998, 2001).

Ofsted (1995) used school inspection reports and visits to schools from 10 LEAs to evaluate the provision of CEG in secondary schools. During the visits, discussions were held with headteachers and those staff responsible for planning, providing and monitoring the CEG provision. Teaching was observed, written work was scrutinised and discussions were held with students in Years 9, 10 and 11 about their subject courses and vocational aspirations.

The results of this study show that the quality of provision of CEG varies from school to school. The authors report that the impact in the first year of additional funding to support CEG for students in Years 9 and 10 had been 'modest'. Considerable confusion was found in schools regarding its purpose and scope, and relatively few institutions were found to have coherent and developmental CEG provision across the Key Stages. Standards of students' work were reported as higher where schools had a good written policy on CEG covering each of the Key Stages, linked to the school development plan and a planned programme of CEG provided by designated staff who had received proper training and support. Between Year 10 and Year 11, most students demonstrated a significant growth in their knowledge and understanding of the post-16 choices open to them and they had acquired many skills that would be useful in making decisions and implementing them.

A more recent study by **Ofsted** (1998) used observations of 338 career lessons; interviews with 3,217 students; observation of 191 guidance interviews; and discussions with teachers, careers service companies, parents, governors and employers in order to assess the impact of recent government initiatives (e.g. the reorganisation of the careers service into careers companies, and funding for careers libraries). The results show that the attainment of students' knowledge, skills and understanding in CEG is 'satisfactory' in about 70% of secondary schools but not in three out of 10 schools. The quality of teaching is 'satisfactory' in eight out of 10 careers lessons. Fifty percent of teachers have a very good understanding of CEG, but the other half are insufficiently trained for careers work and need further support. A quarter of schools do not offer a planned and well-organised programme of careers education.

The authors indicate that the variation in provision in terms of the content and organisation of CEG and time allocated for careers work is 'unacceptable'. One in 10 schools allows no more than three hours of careers teaching in Year 10 and Year 11. One in five schools allocates more than 20 hours to the same year groups.

The majority (90%) of guidance interviews conducted by careers advisers are 'satisfactory' or better. The majority of schools inform and involve parents in the decisions associated with Year 9 option choices, but the skills and experience of parents are rarely used within CEG programmes.

The authors also report, however, that there are not enough suitably qualified teachers of careers education and that only 33% of co-ordinators hold a recognised careers qualification. The responsibilities and financial rewards of the co-ordinators vary considerably, along with the amount of non-teaching time allocated by schools to support their work. Ten percent of schools do not have a dedicated careers library and, in a quarter of schools, the quality of information is unsatisfactory. Access to the library for a quarter of students is 'poor'. Over 50% of schools have not made effective use of ICT for careers work.

The report indicates that the Year 9 and Year 10 Initiative was making a 'satisfactory' impact in nearly half of schools, and has increased the amount of time for careers teaching in Year 9 in over half of schools. The additional time is spent on work associated with option choices, introducing students to the careers library and explaining the work of the careers service.

Another study carried out by **OHMCISW** (1996) that aimed to explore the nature of CEG provision in secondary schools used visits to 10% of secondary schools across Wales. Visits included lesson inspections, pupil assessment and reviewing relevant documentation, including school policies and schemes of work. Interviews were held with senior staff, careers co-ordinators and pupils. Inspections of school-based activities associated with preparation for work experience and subsequent debriefing also occurred. The 10% sample was selected to provide a broad range of different socio-economic settings and sizes.

The authors report that the overall quality of CEG is satisfactory but that there is a significant amount of unsatisfactory practice at KS 3, especially in relation to providing information that enables pupils to take account of the career implications of courses to be followed at KS 4.

In general, the teaching by trained and experienced staff is good. Well-planned lessons, based on clear aims and objectives, give pupils a clear insight into career choices available and the implications of these choices. When non-specialists teach a careers programme, the quality of the teaching varies widely, especially at KS 3.

The quality of learning at KS 3 is unsatisfactory in the majority of schools, due mainly to an over-reliance on undemanding worksheets which make insufficient reference to individual career aspirations. In almost all schools surveyed, CEG is delivered at KS 3 wholly through PSE programmes. In addition to CEG, pupils undertake a number of other modules (e.g. health education and study skills). The amount of time allocated to CEG in Year 9 is between two and 12 hours, averaging about four hours in the schools inspected.

In many schools, pupils at KS 3 do not undertake sufficient work on identifying individual strengths and aptitudes. Even where pupils have good knowledge of their qualities, they do not always utilise this information in order to make subject choices that will widen the range of career routes open to them. This is particularly important in Wales where the compulsory core at KS 4 includes relatively few subjects compared with KS 3.

Morris et al. (1998) used interviews with school staff (n=93) and student survey data (n=7,562) in 30 English schools to measure the impact of enhanced CEG provision for pupils in Years 9 and 10. The study examined changes in young people's careers related skills, their satisfaction with careers education activities and their attitudes to further guidance. Although the results are reported in terms of significance, it is not clear whether the authors mean statistically significant.

The authors report that, although there were no significant differences between the two cohorts in terms of 'self-awareness' skills, the level of such skills had increased more rapidly in guidance community schools than in any other type of school. Rates of change over time in young people's 'opportunity awareness' were significantly lower in schools where there was little or no partnership with the careers service. The authors also report that, while 'careers exploration' skills were still significantly lower in such schools, they were increasing at a significantly faster rate than in either guidance community or pyramidal schools⁵.

The extent of awareness of education, training and labour market opportunities, and young people's confidence in transition skills was increasing at a faster rate in schools in areas of high socio-economic deprivation. It is, however, indicated that students in these schools seemed to be less open to further guidance compared with other students. 'Factual knowledge' and 'research skills' were found to be increasing at a faster rate in schools with tendencies towards low levels of ability. The authors suggest that there may have been more effective intervention in these schools, many of which started from a low base. It is also suggested that clearly targeted interventions, provided in collaboration between informed careers services and school staff, can have a significant impact on young people's careers-related skills.

Morris et al. (2001) used a mix of methods to examine the extent, type and quality of CEG being delivered in schools and careers services. A survey of learners aged 11 to 16 (with older learners also included), yielded 528 responses. Careers service chief executives (n=37) were also surveyed. Case studies included 30 schools and involved interviews with 29 careers advisers, 25 senior managers, 24 careers co-ordinators, one work experience co-ordinator and 21 operations managers. Discussion groups were carried out with a total of 164 Year 11 students who also completed a pro forma.

⁵ ***Morris's model of interactive practice***

Parallel provision: Careers education was seen as the province of teachers in school, while guidance took the form of careers service interviews that were generally a single event, isolated from the wider school curriculum. This model was characterised by very little interaction or information flow between the key players: the careers adviser, school staff, and the young person.

Pyramidal model: A greater flow of information and young people were better prepared for their careers service interview, which was seen as the culmination of the guidance process. However, the outcomes of the interview rarely played any further part in continuing careers education while the student became, effectively, an individual client of the service.

Guidance community or partnership model: Provision of careers education and of careers guidance was closely integrated, with careers advisers actively involved in curriculum planning and review, and in providing feedback from interviews that informed future curriculum development.

The authors report that the majority (95%) of schools made some CEG provision for students in Years 9 to 11, primarily through PSE. Most (81%) survey respondents felt secure in their ability to supply careers education in Years 9 and 10, although nearly one fifth said that they felt better doing this in tandem with a careers advisor.

Young people in Year 11, however, were concerned about inappropriate timing and poor curriculum planning with 'too much information in Year 9 which is too soon, or in Year 11, which is too rushed'. The average time spent on careers education in Year 9 was found to be nine hours and 55 minutes in an academic year. Schools identified as best practice had a timetabled allocation of at least 50 minutes a week for the careers education and guidance programme for each of Years 9, 10 and 11.

Howieson and Semple (1996) used a qualitative case study approach to explore the nature of guidance work and its interaction with other aspects of school organisation. The research was based on six schools across four regions of Scotland, contrasting in size and socio-economic composition of school roll, and chosen to reflect different approaches to guidance and a diversity of pupil needs. The data-extraction for this review focuses on learners aged 11 to 16 years in Scottish secondary schools. A total of 18 group discussions were carried out where pupils completed a questionnaire on an individual basis, and then in pairs to produce a list of issues before taking part in a group discussion.

The authors conclude that pupil perceptions of the quality of guidance provision and their willingness to make use of it depended heavily on the guidance teacher in question.

Guidance is perceived by students as being associated with pupils in trouble or with problems, although the majority thought guidance should be available for all pupils. In view of the gap that was found between pupils' and guidance teachers' perceptions of provision and relationships, the authors suggest that it would be valuable for schools to pay greater attention to pupils' views. The study also found that pupils' and teachers' expectations, and understanding about confidentiality, appear to differ.

Pupils identified a need for more CEG, particularly when certain careers education topics were covered. The authors suggest that the timing of CEG provision should take account of pupils' need for input at an early stage, well before the point of decision. It is also suggested that the subject choice process at S4/S5 (equivalent to KS 4 in England) needs to be further developed, in particular, to include consideration of career plans. It is reported that pupils, including the more academic, identified a need for greater contact with the careers service.

Summary

Findings based on high weight of evidence

- Pupils' perceptions of the quality of guidance provision and their willingness to make use of it depended heavily on the guidance teacher in question.

- There is some evidence to suggest that 'guidance' may be negatively perceived by some students. Guidance can be seen as being associated with pupils in trouble or with problems. However, the majority of students in one study thought that guidance should be for all pupils.
- The timing of the CEG interventions is a key factor in ensuring that young people receive the support they need well before the point at which they must make decisions about future educational and employment opportunities.

Findings based on medium and low weight of evidence

- Overall, the evidence suggests that provision of CEG varies from school to school, depending on a range of factors that can be seen as 'indicators' of quality, including school policy and management; content and organisation of CEG programmes; qualifications of teaching staff designated to deliver CEG; standards of students' work; and library resources. The research implies that these factors affect the transition of young people. Where provision is good, the impact on young people in transition appears to be positive.
- Although studies that evaluated the impact of the Year 9 and 10 Initiative reported that the impact in the first year was 'modest' or 'satisfactory', a number of concerns were raised regarding the quality of provision. Although the additional funding from the Year 9 and 10 Initiative had enabled schools to spend additional time on career-related activities, the time allocated to CEG remained inconsistent.
- There is some evidence to suggest that students' career-related learning is dependent on the quality of provision of CEG in schools. The standards of students' work were found to be higher where schools had a good written policy on CEG covering each of the Key Stages.
- Further indications of the impact of CEG relate to the development of career-related skills. This is associated with a number of school-level factors: school type; the ability profile of the school; and the type of CEG provision.
- The evidence suggests that one of the benefits of CEG is helping students to develop 'knowledge and skills' which enable them to make educational and career choices.
- However, the studies raise concerns about unsatisfactory practice in KS 3, especially in relation to providing information that enables pupils to take account of the career implications of courses to be followed in KS 4.
- Overall, the evidence suggests that the quality of teaching in CEG is varied. The evidence implies that the lack of expertise in the delivery of CEG is an important variable that impacts negatively on young people in transition.
- CEG was found to be primarily delivered through PSE at KS 3. The evidence suggests that the time allocated to CEG is insufficient to meet the needs of students. A wide variation in time allocated to CEG is evident. Studies suggest that more time allowed for CEG would have a more positive impact for young people. Indeed, best practice was identified in schools which had a timetabled allocation of at least 50 minutes a week for the CEG programme for each of years 9, 10 and 11.

4.2.1.2 What is the impact of *specific CEG programmes* on the transition between KS 3 and KS 4, and on learning and development during KS 4?

Three studies examined the impact of specific CEG programmes, including a relatively simple computer-assisted career guidance (CACG) programme; a careers exploration programme; and a three-stage programme designed to help students prepare for the transition to high school.

Of these, one English study was judged as providing a high weight of evidence (Edwards *et al.*, 1999). The other two studies, carried out in the US, were judged to provide a medium weight of evidence (Luzzo and Pierce, 1996; Peterson *et al.*, 1999).

Edwards *et al.* (1999) used a quasi-experimental approach to evaluate the effect of a careers exploration programme. Comparisons were designed between experimental and control groups (546 Real Game participants and 559 comparison subjects). This included 16 out of 37 schools in the UK that were involved in the programme pilot. Specific career-related learning outcomes (knowledge and opinion) were measured before and after The 'Real Game' intervention. The 'World of Work' questionnaire (developed by The Real Game) was administered in schools at the beginning and the end of The Real Game programme.

Additional information obtained from schools about pupils' age, gender, scholastic aptitude tests (SATS) scores, entitlement to free school meals and missed sessions was also used. In addition, 12 schools were visited by a member of the evaluation team. Teachers' questionnaires were used to gather the perceptions of the learning outcomes achieved by pupils of those involved in teaching The Real Game and Careers Service questionnaires were used to gain the views of each careers service associated with a pilot school.

The authors conclude that pupils appear to believe that they learned most about present-day career-related matters relevant to their current personal situations. Large numbers believed that they had learned about working in groups and financial budgets, but they did not believe that they had learned quite so much about what might be more remote career issues, such as recruitment criteria and the future shape of work. Perceived learning was sufficiently independent of measured ability, sex and age (within the age group considered) to conclude that The Real Game appeared to be suitable for the generality of young people at this stage of their education.

Luzzo and Pierce (1996) used the career maturity inventory scale to evaluate the effects of DISCOVER, a computer-assisted career guidance system, on the career maturity of a small group (n=38) of mixed sex learners aged 11 to 16 in middle (secondary equivalent) schools in the US. The study included two groups of participants: one experimental (receiving DISCOVER) and one control (receiving oral and written business communication). Pre-testing on career maturity showed that there were no significant difference between those in the experimental and control groups.

The results indicate that middle school students' attitudes toward career decision-making processes may become more 'age appropriate' after using DISCOVER. The authors suggest that this highlights one of the potential benefits of CACG,

that is, significant changes in a student's readiness to make realistic educational and vocational decisions can be realised in a relatively brief period of time.

Peterson et al. (1999) used self-completion questionnaires; psychological tests; and other documentation (completion of a Career Grid (Florida Bureau of Career Development and Instructional Improvement ((FBCDII), 1993) and responses on a four-year trial plan of studies form (FBCDII, 1993) to investigate the impact of three levels of career interventions on the educational choices of eighth grade students (n=72) as they prepare for the transition to high school. The educational setting for this study was a developmental research school in a large south-eastern public university in the US. The immediate focus of the investigation was on the formulation of an appropriate four-year high school programme of study, consisting of required courses and electives that would provide a map of educational milestones for realising a student's career aspirations.

Three separate cohort groups each participated in one of three treatment conditions: Level 1, consisted of a general announcement made by a member of a middle school guidance staff that high school registration would be held in one week and to be prepared by completing a trial high school programme of study form in advance. Level 2 consisted of the Level 1 intervention and printed support materials. This group was also provided with an opportunity, through self-directed study materials, to enhance their knowledge of the high school curriculum. Level 3 (in addition to Levels 1 and 2 interventions) consisted of a computer-assisted classroom intervention (C-PLAN) designed to foster career problem-solving and decision-making skills, according to a cognitive information-processing paradigm. Each student was also given the opportunity, with the assistance of the school counsellor, to complete a full, four-year plan accurately for a high school programme of study in accordance with his or her interests and aspirations.

The authors report a direct correspondence between the level of career intervention and the degree to which participants were able to demonstrate 'mastery' criteria in completing a high school plan of study, particularly as the level of cognitive complexity of the criteria increased. The authors suggest that both the Level 2 intervention (with announcement and handouts) and Level 3 (with computer-assisted classroom career guidance) are helpful in assisting individuals preparing trial high school programmes of study, particularly in science and maths.

The authors indicate that the intervention with the least cost implication (Level 1) resulted in very few students being fully prepared to make educational decisions. The addition of print materials demonstrated improvements in preparation with slight increases in costs (Level 2). Although more costly, Level 3 – where four class periods were dedicated to preparation to educational decision-making and support from careers counsellor and careers technology – all students met the performance criteria. They conclude that, without at least some exposure to easily comprehensible print materials, many students risk choosing inappropriate maths and science courses to achieve their career aspirations.

Summary

The evidence from all three studies suggests that young people's participation in specific CEG programmes or interventions can have a positive impact on the transition between KS 3 and KS 4. One of these studies was judged as providing a high weight of evidence and two a medium weight of evidence.

Findings based on high and medium weight of evidence

- All the above studies provide evidence that young people's careers-related knowledge appears to be influenced positively by participation in specific CEG programmes.
- There is evidence to support the case for the use of specific interventions and programmes that help to prepare young people to make appropriate choices.
- Specific learning outcomes can be directly attributed to participation in targeted programmes. Such programmes help young people to develop the knowledge and skills they need to ease the transition process.

4.2.2 Sub-questions

4.2.2.1 How does CEG affect the transition process and/or learning and motivation?

Six of the studies in the in-depth review were judged to provide information concerning how careers education and guidance affected the process of transition or learning and development. One of these was judged to provide high weight of evidence and five were judged to provide medium weight of evidence.

The Ofsted study (1995) demonstrated that, between Year 10 and Year 11, most students demonstrated a significant growth in their knowledge and understanding of the post-16 choices open to them; they also demonstrated that they had acquired many skills which would be useful in making decisions.

The study carried out by HM Chief Inspectorate of Schools in Wales (1996) raised concerns about the unsatisfactory practice in KS 3, especially in relation to the provision of information that enables pupils to take account of the career implications of courses to be followed in KS 4. Well-planned lessons, based on clear aims and objectives, give pupils a clear insight into career choices available and the implications of these choices. However, an over-reliance on undemanding worksheets, which make insufficient reference to individual career aspirations, is regarded as unacceptable. The study found that, in many schools, pupils at KS 3 do not undertake sufficient work on identifying their individual strengths and aptitudes. Even when pupils have a good knowledge of their qualities, they do not always use this information sufficiently to make subject choices which will keep open a wide range of career routes.

Students' readiness to make realistic educational and vocational decisions is a key benefit of specific interventions (Luzzo and Pierce, 1996).

As a result of additional funding, the extent of 'awareness of education, training and labour market opportunities' and young people's 'confidence in transition skills' were increasing at a faster rate in schools in areas of high socio-economic deprivation according to Morris *et al.* (1998). 'Factual knowledge' and 'research skills' were also reported to be increasing at a faster rate in schools in which there was a tendency to low levels of ability. The authors suggest that, in these cases, there may have been more effective intervention, many of which started from a low base. Young people's careers-related skills can be enhanced by providing clearly targeted interventions in collaboration between informed careers service and school staff.

Improved learning can result from young people's participation in specific programmes, such as The Real Game (Edwards *et al.*, 1999). Pupils said they had learned 'quite a lot' or 'a lot' about a wide range of career-related learning objectives, many of which were consistent both with the content of The Real Game and with career-related learning outcomes expected at KS 3.

Peterson *et al.* (1999) indicate that, without extra support, there is a risk that students may choose inappropriate courses to achieve their career aspirations. A direct correspondence was found in this study between the level of career intervention and the degree to which participants were able to prepare for the transition to high school.

Summary

Findings based on high and medium weight of evidence

- Broadly, the evidence suggests that CEG interventions can improve students' learning and help them to prepare for the transitional phase. Students can gain clear insight into the choices available to them and may be equipped with knowledge and skills to prepare for decision-making and the implications of the choices they make.

4.2.2.2 What internal and external factors modify the effects of CEG?

CEG is just one of many influences on young people in transition between KS 3 and KS 4. This section attempts to identify the factors that modify the effects of CEG; that is to say, factors other than general provision or specific programmes provided in schools that may impact on young people in transition within studies also considering CEG.

Three studies, two of which were judged as providing a medium weight of evidence, and one providing a low weight of evidence, make reference to other factors that may impact on the transition process. Of these, one was carried out in the US (Turner and Lapan, 2002) and the others in the UK (Morris *et al.*, 1998; Ofsted, 1998).

Although a number of other studies collected data on gender, socio-economic status and ethnicity, the information does not appear to have been used in the analysis or is not made explicit.

Parents' influences

Turner and Lapan (2002) used computer-based questionnaires to explore relationships between parent support, gender, and gender stereotyping on career interests, and career self-efficacy among US middle school pupils (n=139) from seventh and eighth grades (age 12 to 13 years). Two published questionnaires were used: the Mapping Vocational Challenges (MVC), a self-assessment detailing 90 occupations which students rate on a three-point Likert Scale) and the Career Planning and Exploration Efficacy Scale (CPEE), a 10-item measure of confidence for successfully engaging in one's own exploration and planning for suitable careers which students rate on a seven-point Likert scale.

Turner and Lapan suggest that, in order to participate in a more intentional and self-directed way in their own career development process, young adolescents need both the support of their parents and involvement in a comprehensive school-based guidance programme that develops confidence around such

career-related competencies as career planning and occupational exploration. The findings indicate that career planning and career self-efficacy were both significantly associated with middle school adolescents' career interests. The perceived parent support was not directly associated with young adolescents' career interests, but did directly predict their career self-efficacy.

A second study also makes a brief reference to parents' influence on young people in transition (Ofsted, 1998). It reports that the majority of schools inform and involve parents in the decisions associated with Year 9 option choices, but the skills and experience of parents are rarely used within CEG programmes.

Socio-economic background

The study by Morris *et al.* (1998), as previously described, examines the relationship between young people's career-related skills and the activities that appear to have significantly contributed to the development of those skills. Students' satisfaction with the guidance activities undertaken and their attitudes to further guidance were also explored. The authors conclude that the development of high levels of careers-related skills may not always be accompanied by positive attitudes towards guidance. This was exemplified by the students in schools in areas of high urban deprivation, where it was apparent that a significant amount of effort had gone into raising opportunity awareness and developing transition skills.

Gender influences

Morris *et al.* (1998) also suggest that there is a need to address emerging gender issues in careers education and guidance provision. Although access appeared to be equitable, there was clearly a difference in the ways in which such sources were perceived and used.

Gender and career stereotyping is reported as a key factor in predicting adolescents' interests in particular careers. Turner and Lapan (2002) report that young people perceived men as more likely to be employed in 'realistic' and 'imaginative' careers, and more women in 'social' careers.

Summary

CEG is just one of many factors that influence young people in transition between KS 3 and KS 4. Three key factors, other than CEG, are identified in the studies reviewed as influencing young people in transition: parents, socio-economic background and gender.

Findings based on medium weight of evidence

- Socio-economic background is also identified as an important factor that modifies the affect of CEG. There is evidence to suggest that, even where a significant amount of effort had gone into raising opportunity awareness and developing transition skills, students in schools in areas of high urban deprivation, may not have a positive attitude towards guidance.
- There is a need to address emerging gender issues in CEG provision. There are indications that there may be gender differences in the ways in which resources are perceived and used by young people.
- Career and gender stereotyping is a predictor of adolescents' interests in particular careers.

Findings based on medium and low weight of evidence

- Parents are a key influence on young people's choices. The evidence suggests that both the support of parents and careers education are important to help young people through the transition process.

4.3 In-depth review: quality-assurance results

The differences between the review group's and the EPPI-Centre staff's versions of the data-extraction of studies were in most cases different expressions of the same fundamental opinion, and a final version was agreed with ease, usually by combining the two versions. Some differences in the two versions stemmed, in the early stages, from misunderstandings or different interpretations of terminology. Through moderation with the EPPI-Centre staff, this was resolved and implemented in the later stages of the process. Generally, through discussion between members of the review group, differences were resolved and consensus was reached without difficulty. Such discussion either resulted in one version or the other, or a combination of the two, being taken forward into the final version.

4.4 Nature of the actual involvement of users in the review and its impact

As described in Chapter 2, the review group has drawn on the expertise of a pool of associates and established networks of researchers and practitioners in the process of this review. A core Advisory Group was consistent in attending meetings as far as possible within their busy schedules. When face-to-face meetings were not possible, communication by email ensured that the group was kept informed of progress. The Advisory Group and a CeGS Associate actively contributed to the formulation of the protocol, suggested references and provided feedback on written documents. One other Associate attended training at the EPPI-Centre and assisted with searching for references.

5. FINDINGS AND IMPLICATIONS

This chapter considers the main findings, strengths and weakness of the review, and the implications for policy, practice and research.

5.1 Summary of principal findings

5.1.1 Identification of studies

A comprehensive search for reports of empirical research that was of relevance to the review question was systematically conducted by the review group. Literature was identified through handsearches and the interrogation of electronic databases. The search process was recorded and the results stored in a database. The initial search yielded 6,766 papers. Screening by title and abstract resulted in a total of 539 papers – 338 papers from electronic databases and a further 201 from handsearches – with potential for inclusion. Application of the inclusion criteria reduced the number of papers to 63. Of these, six could not be obtained during the timeframe, leaving 57 to be screened by the full document. Re-application of the criteria further reduced the number to 10 potential studies, reported in 11 documents.

5.1.2 Mapping of all included studies

The included studies were keyworded according to EPPI-Centre generic keywords (2002a), augmented by additional review-specific keywords that provided further detail about the nature of the intervention, population and outcomes (Appendix 2.4 and Appendix 2.4.1). The keyworded studies were used to create a map of the literature describing the research that has investigated the impact of CEG at KS 3.

Systematic map

The characteristics of the included studies are described under the following sections:

- Seven of the studies were carried out in the UK. Five of these studies were specific to England (Edwards *et al.*, 1999; Morris *et al.*, 1998, 2001; Ofsted, 1995, 1998), one to Wales (OHMCISW, 1997) and one to Scotland (Howieson and Semple, 1996). The remaining three studies included in the systematic map were carried out in the US (Luzzo and Pierce, 1996; Peterson *et al.*, 1999; Turner and Lapan, 2002). All of the UK studies were government-funded; however, funding sources for the US studies were not made explicit.
- All the included studies focused on learners and the majority (n=8) examined teaching and learning. Half of the studies also focused on teaching staff (n=5) and a minority considered senior management (n=3) or parents (n=2). Six of the studies focused on the general provision of CEG in secondary schools (Howieson and Semple, 1996; Morris *et al.*, 1998, 2001; Ofsted, 1995, 1998; OHMCISW, 1997). One of the US studies focused on learners' knowledge and awareness of the high school curriculum (Peterson *et al.*, 1999), while the

others had non-curricular foci that included career guidance (Luzzo and Pierce, 1996) and the effect of careers interventions on educational decisions (Turner and Lapan, 2002).

- Of the studies that examined CEG in general, one study specifically attempted to assess the guidance interview (Ofsted, 1998), whilst Howieson and Semple (1996) specifically examined the pupil experience of guidance. Of the studies that examined specific CEG interventions, one investigated the impact of a CACG system (Luzzo and Pierce, 1996); another evaluated 'The Real Game', a career exploration programme (Edwards *et al.*, 1999); while the third study examined the affect of a specific support programme, designed to help students prepare for the transition to high school (Peterson *et al.*, 1999). One study not included in the synthesis of evaluations (Turner and Lapan, 2002) focused on relationships between perceived parent support and career self-efficacy.
- In the included studies, CEG was delivered by one or more of school teaching staff (n=5), 'careers co-ordinators' (n=4), the 'careers teacher' (n=4) or the 'careers adviser' (n=2). The individual responsible for delivery cited in two of the US studies was 'the school counsellor' (Luzzo and Pierce, 1996; Peterson *et al.*, 1999). In cases where the focus of the study was the general provision of CEG, the roles of those involved in delivery was not made explicit. Classroom delivery of CEG featured in the majority (n=7) of studies. Modes of delivery included 'face-to-face' (n=2), small groups (n=1), delivery in resource centres (n=1), careers software (n=4) and information packs (n=1).
- All the included studies focused on learners aged 11-16. However, two also included sixth-form learners aged 17-20.
- The majority (n=9) of included studies were undertaken in secondary (or US equivalent) schools. One study also included special schools (Ofsted, 1998). A developmental research school was the focus in one US study (Peterson *et al.*, 1999).
- Six UK studies pre-date the rapid and far-reaching changes (e.g. such as the focusing agenda (UK) and the introduction of Connexions (England)), which have taken place in the UK.
- Four categories were used to code the type of study: descriptive (n=5); evaluation (of a naturally-occurring intervention (n=6) and of a researcher-manipulated intervention (n=3)); and exploration of relationships (n=2). There is a degree of overlap between study types because the categories are not mutually exclusive. Of the evaluations of naturally-occurring interventions, four are also considered to be descriptive (Howieson and Semple, 1996; Morris *et al.*, 2001; Ofsted, 1998; OHMCISW, 1997). Two studies were coded as explorations of relationships: one purely an exploration of relationships (Turner and Lapan 2002) and the other also descriptive (Ofsted, 1995). Two studies were considered to be purely evaluations of researcher-manipulated interventions (Luzzo and Pierce, 1996; Peterson *et al.*, 1999). The Edwards *et al.* study (1999) was classified as an evaluation of both a researcher-manipulated and a naturally-occurring intervention.

5.1.3 Nature of studies selected for in-depth review

All studies in the systematic map were then included in the in-depth review.

These studies focused on CEG delivered either in school or by an external organisation during KS 3. The outcomes identified in the studies related to young people as they approached the transition to KS 4, or to student development and learning during KS 4. Studies were based on empirical data and conducted after 1988. Selections were not restricted by country of origin; however, only those published in English were included.

The quality of the studies included in the in-depth review varied. Only two studies were judged to provide a high weight of evidence (Edwards *et al.*, 1999; Howieson and Semple, 1996), with the majority (n=7) providing a medium weight of evidence (Luzzo and Pierce, 1996; Morris *et al.*, 1996, 2001; Ofsted, 1995; OHMCISW, 1997; Peterson *et al.*, 1999; Turner and Lapan, 2002). In the review group's judgement, only one study included provided a low weight of evidence (Ofsted, 1998). The difference in the weights of evidence of the two Ofsted studies is due to a lack of information provided by authors of the later study.

5.1.4 Synthesis of findings from studies in in-depth review

The synthesis of evidence is based on emerging themes from the review which correspond to the review question and sub-questions: the impact of general provision of CEG; the impact of specific CEG programmes; how CEG affects the transition process; and the influences which modify the affects of CEG.

What is the impact of *general* CEG provision on the transition between KS 3 and KS 4 and on learning and development during KS 4?

Overall, the evidence suggests that provision of CEG varies from school to school, depending on a range of factors that can be seen as 'indicators' of quality, including school policy and management; content and organisation of CEG programmes; qualifications of teaching staff designated to deliver CEG; standards of students' work; and library resources. The research implies that these factors affect the transition of young people. Where provision is good, the impact on young people in transition appears to be positive.

Findings based on high weight of evidence

- Pupils' perceptions of the quality of guidance provision and their willingness to make use of it depended heavily on the teacher providing the guidance.
- There is some evidence to suggest that 'guidance' may be negatively perceived by some students. Guidance can be seen as being associated with pupils in trouble or with problems. However, the majority of students in one study thought that guidance should be for all pupils.
- The timing of the CEG interventions is a key factor in ensuring that young people receive the support they need well before the point at which they must make decisions about future educational and employment opportunities.

Findings based on medium and low weight of evidence

- Although studies that evaluated the impact of the Year 9 and 10 Initiative reported that the impact of the Initiative in the first year was 'modest' or 'satisfactory', a number of concerns were raised regarding the quality of provision. Although the additional funding from the Year 9 and 10 Initiative

had enabled schools to spend additional time on career-related activities, the time allocated to CEG remained inconsistent.

- There is evidence to suggest that students' career-related learning is dependent on the quality of provision of CEG in schools. The standards of students' work were found to be higher where schools had a good written policy on CEG covering each of the Key Stages.
- Further indications of the impact of CEG relate to the development of career-related skills. This is associated with a number of school level factors: school type; the ability profile of the school; and the type of CEG provision.
- The evidence suggests that one of the benefits of CEG is to help students develop 'knowledge and skills' to enable them to make educational and career choices.
- However, the studies raise concerns about unsatisfactory practice in KS 3, especially in relation to providing information that enables pupils to take account of the career implications of courses to be followed in KS 4 and beyond.
- Overall, the evidence suggests that the quality of teaching in CEG is varied. The evidence implies that the lack of expertise in the delivery of CEG is an important variable that impacts negatively on young people in transition.
- CEG was found to be primarily delivered through PSE at KS 3. The evidence suggests that the time allocated to CEG is insufficient to meet the needs of students. A wide variation in time allocated to CEG is evident. Studies suggest that more time allowed for CEG would have a more positive impact for young people. Indeed, best practice was identified in schools which had a timetabled allocation of at least 50 minutes a week for the CEG programme for each of years 9, 10 and 11.

What is the impact of *specific* CEG programmes on the transition between KS 3 and KS 4 and on learning and development during KS 4?

The evidence from three studies suggests that young people's participation in specific CEG programmes or interventions have a positive impact on the transition between KS 3 and KS 4.

Findings based on high and medium weight of evidence

- All the above studies provide evidence that young people's careers-related knowledge appears to be influenced positively by participation in specific CEG programmes.
- There is evidence to support the case for the use of specific interventions and programmes that help to prepare young people to make appropriate choices.
- Specific learning outcomes can be directly attributed to participation in targeted programmes. Such programmes help young people to develop the knowledge and skills they need to ease the transition process.

How does CEG affect the transition process and/or learning and motivation?

Six out of ten of the included studies provided some evidence about how CEG (general and specific) affects the transition process and/or motivation.

Findings based on high and medium weight of evidence

- Broadly, the evidence clearly suggests that CEG interventions can improve students' learning and help them to prepare for the transitional phase. Students can gain clearer insights into the choices available to them and CEG interventions can equip them with 'knowledge and skills' to prepare for decision-making and the implications of the choices they make.

What internal and external factors modify the effects of CEG?

CEG is just one of many factors that influence young people in transition between KS 3 and KS 4. Three key factors, other than CEG, are identified in the studies reviewed as influencing young people in transition: parents, socio-economic background and gender.

Findings based on medium weight of evidence

- Socio-economic background is also identified as an important factor that modifies the affect of CEG. There is evidence to suggest that, in schools in areas of high urban deprivation, where it was found that a significant amount of effort had gone into raising opportunity awareness and developing transition skills, students may not have a positive attitude towards guidance.
- There is a need to address emerging gender issues in CEG provision. There are indications that there may be gender differences in the ways in which resources are perceived and used by young people.
- Career and gender stereotyping is a predictor of adolescents' interests in particular careers.

Findings based on medium and low weight of evidence

- Parents are a key influence on young people's choices. The evidence suggests that both the support of parents and careers education are important to help young people through the transition process.

5.2 Strengths and limitations of this systematic review

Strengths

The systematic review process has enabled the review group to undertake an objective assessment of the available research to provide a sound evidence base for practitioners and policy-makers. The process has identified gaps in the research that are relevant for young people in transition from KS 3 to KS 4. The results raise concerns about the quantity and quality of published research that considers the impact of CEG delivered at this crucial stage for young people.

Concerns about the transparency of methodologies in research reports have also been raised.

Limitations

The review group is aware that there may be studies which have not been identified. There is a possibility that unpublished reports and PhD theses may provide relevant research evidence, but these can be difficult to track down and costs may be prohibitive. It should also be noted that studies that are not written in English may also provide insight into the impact of CEG on young people's transitions in education.

Difficulties were identified between the timing and writing of the protocol and the practical application of protocol criteria to the review. In the future, this could be overcome by clarifying all research issues prior to finalising the protocol.

The systematic review identified some studies which, although highly relevant to the research question, had to be classified as being of a low weight of evidence, either on account of the lack of reported methodological processes or because the methods were not very appropriate for addressing the research question.

The conclusions that can be drawn from the review are limited, due, at least in part, to the limited nature of the research available and the lack of differentiation in the research literature between CEG at KS 3 and KS 4. There is also a disadvantage common to systematic reviews in that, when changes in policy and practice do occur, it takes time for primary studies to be commissioned and completed, which in turn impacts on how quickly the results of any changes in policy or delivery can be incorporated into systematic reviews.

The review was, to some extent, limited by technical difficulties experienced in the early stage of the research process. The transparency of the process would have been improved by the provision of appropriate software and importation filters that would have eliminated the need for online screening. Thus, the review group would have been able to account for all studies that were excluded by title and abstract.

The terminology used by some authors can be misleading. For example, the unqualified use of the term 'significant' implies statistical significance. Therefore, caution is needed when interpreting the results of studies where authors are not explicit about the analysis of data. A further example is the use of the terms 'knowledge and skills'; in some cases, authors use these terms to describe particular pre-defined knowledge and skills that are subject to measurement in the studies. However, there are also cases where these terms are used generally with no qualification. Such instances lead to vague conclusions which can mislead the reader.

5.3 Implications

The systematic review process has identified both gaps in the research and shortcomings in the research evidence that are highly relevant to our review questions relating to young people in transition from KS 3 to KS 4. In particular, the impact of the recent rapid and far-reaching changes, including the focusing agenda in the UK and the introduction of Connexions in England, have not been

adequately covered in this review due to the lack of research evidence. The results raise concerns for policy-makers, practitioners, researchers and other end- users about the quantity and quality of published research that considers the impact of CEG delivered at this crucial stage for young people. The lack of differentiation between CEG management and delivery at KS 3 and KS 4 is a particular concern. The lack of studies that highlight the differences between CEG at these Key Stages has serious implications as student needs are very different at these transition points. The small number of studies (n=2) classified as providing high weight of evidence for this review mean that conclusions should be considered tentative. However, the existing evidence suggests that CEG can have a positive impact on the transition process for young people, if delivered appropriately by adequately trained staff across the Key Stages. This is particularly important in view of the decision to extend statutory provision of CEG to Year 7 and Year 8 from September 2004.

5.3.1 Policy

Policy-makers need reliable evidence to inform the development of policies and demonstrate the effectiveness of policy decisions. However, the review reveals a number of gaps in the research available to inform such decisions. The following implications for policy-makers have been identified through this review:

- There is a lack of research evidence that provides high-quality, up-to-date evaluation of the impact of CEG delivered in schools or through external organisations.
- The majority of UK studies included in the review were carried out prior to the careers service focusing agenda in the UK and the introduction of Connexions in England. Although some studies refer to careers companies and partnerships, there seems to be little evidence about their effectiveness.
- Policy-makers commissioning research should address the current lack of differentiation between the management and delivery of CEG at KS 3 and KS 4 in research reports. Students have differing CEG needs at each KS. How these needs are effectively met to support successful transitions should be highlighted in future research design.
- The lack of evidence suggests that more work is needed to assess the effectiveness of CEG during the transition from KS 3 to KS 4, in order to ensure that policy and practice have a sound evidence base. Policy-makers should consider reviewing funding mechanisms to facilitate research, publication, and dissemination of work in this important area.
- The evidence base of the Ofsted and HMI reports was not included in the studies, which made it difficult to assess the reliability and validity of the findings in the published reports. Therefore, it is suggested that a technical report be made available to supplement the main findings.

5.3.2 Practice

It is equally important that practitioners and professional bodies have access to reliable research evidence on which to base their practice. In particular, the sharing of good practice is invaluable for those involved in the delivery of CEG. The lack of evidence resulting from this review highlights the need to develop a research culture within organisations to ensure that programmes and

interventions are more closely monitored and evaluated. The implications of the review findings for practitioners are as follows:

- The reviewed studies have provided some evidence to suggest that clearly targeted interventions may ensure young people avoid inappropriate subject choices that may have serious implications for their future education and careers. Interventions should continue to be reviewed and evaluated through rigorous research and the findings disseminated. This will ensure that effectiveness is monitored and good practice is captured and shared.
- Practitioners should work with their practice community network to contribute to the sharing of best practice. Where necessary, practitioners should lobby professional bodies and policy-makers to improve provision for young people in transition.
- Research evidence to evaluate the impact of new approaches to CEG (such as distinctions between self-help, brief-assisted and intensive support) and new methods (including one-to-one, group work and ICT) is not apparent from this review. Practitioners should ensure that learning outcomes from the use of new approaches to CEG are evaluated, reported and disseminated within their practice communities.
- The review has identified some concerns about staff training and the lack of suitably qualified teachers to deliver careers education. However, there is limited recent research that provides evidence of the nature and the extent of this problem. Professional bodies and employers should support and encourage staff to enhance their capacity to deliver CEG.
- The review revealed evidence from one study to suggest that access to the careers library was 'poor' for a quarter of students. Again, there appears to be no recent evidence to suggest that the situation has improved. Practitioners should ensure that issues, such as students' access to resources, are monitored and that, where necessary, practices are reviewed.
- Students have identified a need for guidance well before the point at which they need to make decisions about their future. However, the evidence suggests that there may be a reluctance to approach staff for help, as guidance is perceived by some to be associated with having a problem. Practitioners should actively promote the value of CEG to students from Year 7 in order to raise their awareness of its potential benefits.
- The review identifies the lack of a coherent strategy for CEG across the Key Stages. This is shown to have a negative impact on the transition process. An approach to CEG which is based on identifying appropriate learning outcomes to meet students' differing needs at each KS, might support the transition process.
- Some unsatisfactory practice at KS 3 was identified by the review. The provision of information to enable pupils to take account of the career implications of courses at KS 4 is essential, especially in view of the 14 to 19 curriculum developments. Pupils can then apply their own individual strengths and aptitudes to subject choices. This should form a key aspect of CEG at KS 3.
- The review reveals concerns about students' needs to develop a better and more realistic understanding of the changing nature of the workplace and the

implications for their own futures. The new 14 to 19 agenda makes this even more crucial and practitioners should work to ensure that this forms an important aspect of CEG.

- The review highlights that Year 11 students lack understanding of both post-16 GNVQ course and the demands of 'A' level courses. A secure knowledge of all the post-16 options available and the implications of these for individual students are essential for realistic choices to be made.
- Parents are identified as key influences on young peoples' choices. The review finds that the skills and experiences of parents are rarely used within CEG programmes. Practitioners could usefully identify ways in which parents' contributions to CEG can be recognised and utilised more fully.

5.3.3 Research

The results of this review also raise a number of key issues for researchers:

- Only two of the 10 studies in the review have been judged as providing a high weight of evidence relating to the impact of CEG on the transition from KS 3 to KS 4. In general there is a need for funding mechanisms to support high quality research into the impact of CEG. Specifically in some cases little information was provided on which judgments could be made about methodological issues, such as sampling, consent and analysis. Researchers should ensure transparency of methodologies and give due consideration to this in the execution and reporting of research projects.
- A number of studies were excluded as they did not provide sufficient differentiation between CEG at KS 3 and KS 4. Future research design and reporting should differentiate between Key Stages in order for conclusions to be made on the differing effectiveness of CEG at each KS. Students have differing needs at each KS and, therefore, appropriate curriculum and interventions are needed to meet these needs. Research findings should enable these to be clearly identified.
- Care should be taken to ensure that terms, such as 'significance', are not used indiscriminately. Authors should avoid the use of vague terms, such as 'knowledge and skills', without providing clear definitions for their readers.
- Researchers should, wherever possible, publish and disseminate their research findings across the policy-making and practice communities to ensure that evidence is accessible to users. Researchers should consult, and seek feedback from, end-users of the research.
- The student experience appears to be under-represented in the research evidence. Although some studies used focus groups with students, only one study allowed the student voice to be heard by using quotations from respondents in the report. Researchers should, where possible, allow the student voice to be heard, by researching and reporting the student experience.
- More research is needed on actions and influences that impact on transitions across KS 3 to KS 4 to the point when decisions are imminent.

- The influences of 'internal' and 'external' factors on the outcomes of transitions need to be explored and assessed. In particular, the influences of external factors - such as parental involvement, socio-economic constraints, family relationships, support services and environmental factors - need to be considered when designing research studies.
- The review has identified gender may be an important issue in two respects: first, it has been suggested that boys and girls make different use of careers resources; and second, there is some evidence in the US that students' aspirations may be based on gender stereotyping. Research is needed to explore students' gender-based perceptions of particular careers.

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APPENDIX 1.1: Advisory Group membership

The review group has brought together a group of individuals to act in an advisory capacity comprising the following experts. In effect, we have a core team of advisers, the review group and a further group of supporters:

Core members		
Name	Role	Organisation
Rob Mayall (Chair)	Chief Executive	Connexions Lincolnshire and Rutland
Dr Jenny Bimrose	Former Chair and current member of the Research Committee	Institute for Career Guidance (ICG)
Deirdre Hughes	Director	Centre for Guidance Studies
John Killeen	Senior Fellow	National Institute for Careers Education and Counselling (NICEC)
Liz Musgrove	Council member	National Association of Careers and Guidance Teachers (NACGT)
Review Group		
Lindsey Bowes	Operations Manager	Centre for Guidance Studies
Rhianne Lilley	Research Assistant	Centre for Guidance Studies
Sue Moon (Lead researcher)	Associate	Centre for Guidance Studies
Supporters/advisers		
Ian Chapman	Performance and targets team	Connexions, DfES
Margaret Jones, Senior Inspector	Education and community learning	Northampton County Council
Kate Mason	Principal Information Officer	Learning and Skills Council National Office
Martin Patrick	Manager for Special Needs	Connexions
Derren Payton	Higher Executive Officer	Connexions Service National Unit

The review group considers that the main users of the review will be researchers, practitioners and policy-makers, and these views will be reflected in the 'User Perspectives' accompanying this report. The review group acknowledges that pupils, parents and governors are not formally represented in these groups, and that there is a lack of involvement of parents in CEG. However, pupils, parents and governors will be taken into account in the dissemination strategy.

APPENDIX 2.1: Inclusion and exclusion criteria

Inclusion criteria

Studies were **included** that meet *all* the following criteria:

- Focus on CEG delivered either within or external to school for young people during Key Stage 3
- Include outcomes relating to the young person as they approach the transition or during the transition to Key Stage 4 or on student development and learning during Key Stage 4
- Are written in English
- Are based on empirical data
- Are conducted after 1988

Studies were **excluded** that are:

- *Only* concerned with the impact of the general curriculum at Key Stage 3
- *Only* concerned with the role of CEG in transition at Key Stage 2 or Key Stage 4
- *Specifically* about school transfer
- *Specifically* related to citizenship (a separate EPPI-Centre review group is already working on this topic);
- Only measure outcomes after the end of Key Stage 4 (age 16)
- Not written in English
- Conducted before 1988
- Not considered to be empirical research (e.g. based on theoretical discussion, rhetoric or single person opinion)

In addressing the review question considering the impact of CEG, only empirical studies were selected. Descriptive articles and explorations of relationships were included, alongside outcome evaluations and process evaluations that encompassed a variety of methods and means of data collection.

Studies were included that considered the influences on making decisions, the 'capability' to make decisions and the 'complexity' of personal circumstances which impact on the choices and pathways made by young people at Key Stage 3 to 4. For example, studies that considered the extent to which the quality and nature of CEG processes were influenced by 'opportunities' and 'threats' within schools were included. Furthermore, research that considered the views of parents/carers and other external influences impacting on the decisions made by young people at 'transition' from Key Stage 3 to 4 were included. This it was

considered would assist in the evaluation of the extent to which CEG policies and practices have successfully facilitated 'transition' and how they could be improved.

Studies could be prospective (e.g. focusing on those who are undergoing this change) or retrospective (e.g. focusing on those who have completed successful and/or unsuccessful transitions within mainstream schools) and be related to CEG being carried out within schools or through external organisations. Studies that were carried out in any country were included.

APPENDIX 2.2: Search strategy for electronic databases

Search engine	Search term
British Education index 1976-2003	Career? Guidance or Career? Education and Secondary
British Education index 1976-2003	Career Paths and Secondary
British Education index 1976-2003	Career? Education and Career? Guidance
British Education index 1976-2003	Career? Guidance or Career? Education
British Education index 1976-2003	Transition? And High School
British Education index 1976-2003	Transition and Secondary School
British Education index 1976-2003	Vocational and Guidance
British Education index 1976-2003	Transition?
British Education index 1976-2003	Key Stage 3 and Transition?
British Education index 1976-2003	Key Stage 4
British Education index 1976-2003	Key Stage 3
British Education index 1976-2003	Career Choice? And Secondary
British Education index 1976-2003	Transition and Junior High
British Education index 1976-2003	Career? Action Plan
British Education index 1976-2003	Career? Education or Career? Guidance and Policy
British Education index 1976-2003	Middle School
British Education index 1976-2003	Vocational High School?
British Education index 1976-2003	Guidance Interview or career? Interview
British Education index 1976-2003	Student Profile
British Education index 1976-2003	Student Profiling
British Education index 1976-2003	Career? Advice
British Education index 1976-2003	Education Action Zone?
British Education index 1976-2003	Education Action Zone? And Secondary
British Education index 1976-2003	Subject Options and Secondary
British Education index 1976-2003	Career Development and Secondary Education
British Education index 1976-2003	Year 9 and Career? Education
British Education index 1976-2003	Assessment Profile
British Education index 1976-2003	Careers Service and Secondary
British Education index 1976-2003	Connexions and Secondary
British Education index 1976-2003	Career Aspirations and Secondary
British Education index 1976-2003	Secondary Education and Career? Guidance
British Education index 1976-2003	Personal Advis?
British Education index 1976-2003	Secondary School and Transition
COPAC	Career? Guidance or career? Education,
COPAC	Career? Guidance or career? Education School
COPAC	Career? Guidance or career? Education and secondary school
COPAC	Career? Education or career? Guidance and year 9
COPAC	Career? Education or career? Guidance Year 9 Key stage 3
COPAC	Key Stage 3 or Key Stage 4
COPAC	Year 9 and Secondary School

Search engine	Search term
COPAC	Year 9 and career guidance and school
COPAC	Careers and Key Stage 3 and School
COPAC	Secondary School and Year 10 or Year 11 or Year 9 and Career
COPAC	Career? Aspiration or choices or decision or paths and secondary school students
COPAC	Career? Aspiration and school student?
COPAC	Career? Choice and School student?
COPAC	Career? Guidance and high school student?
COPAC	Career? Education or career? Guidance and high school
COPAC	High School Freshman and Career
COPAC	GCSE and Career? Education or guidance
COPAC	High school and career? Education/guidance
COPAC	Secondary school transition and Year 9 or Year 10 or Year 11
COPAC	Secondary School and transition and Year 9
COPAC	Grade 7 8 9 10 11 12
COPAC	Career? And Grade 7 8 9 10 11 12
COPAC	Career? Education and Grade 7 8 9 10 11 12
COPAC	Career? Education or Guidance and Grade 7 8 9 10 11 12
COPAC	Career? Decision?and School student
COPAC	Career? Decision? Or Career? Education and School? Student?
COPAC	Vocational high school or career? Teacher or record of achievement
COPAC	Record of Achievement
COPAC	Record of Achievement and Secondary school
COPAC	Career? Teacher? Or School? Advice
COPAC	Middle school and career?
COPAC	Career? Education or Guidance Policy
COPAC	Education Action Zone?
COPAC	Elementary Secondary Education and Career? Guidance
COPAC	Elementary Secondary Education and Career?
COPAC	Careers Service and Secondary Schools
COPAC	Make it Real
COPAC	The Real Game and Career:
COPAC	Transition and School and Guidance
COPAC	Career? Information and School
COPAC	Career? Education or guidance and curriculum
COPAC	Personal Advisor or Career? Teacher
COPAC	Connexions and Schools
COPAC	Career? Teacher
COPAC	Career? Co-ordinator and School
COPAC	Subject option and school
COPAC	Career? Action plan and school

Search engine	Search term
COPAC	Key skill attainment and school and career? Guidance
COPAC	Key skill attainment and career? Guidance
COPAC	Key skill attainment
COPAC	Transition planning and secondary school
COPAC	CV skills or Application skills and school
COPAC	Career Interview and school
ERIC	Career Education or Career Guidance and Secondary School
ERIC	Career? Education or Career? Guidance and Grade 11 or Grade 12
ERIC	Subject Options and Secondary
ERIC	Secondary School and Career? Guidance or Career? Educaiton and Career Decisions
ERIC	Career Aspirations and Secondary School Students
ERIC	Make it Real
ERIC	Secondary and Personal Advise?
ERIC	Connexions Service and Secondary
ERIC	Career? Service and Secondary School
ERIC	Career? Service and High School
ERIC	Education Action Zones
ERIC	Career Paths and Secondary School
ERIC	Transition and Junior High and High School
ERIC	Career? Education or Career? Guidance and Policy
ERIC	Career? Education or career? Guidance and Middle School
ERIC	Career? Education or Career? Guidance and Student Profile
ERIC	High School Freshman and Career
ERIC	GCSE
ERIC	Year 11
ERIC	Career? Guidance or Career? Education and Key Skills and Secondary School
ERIC	Key Skills and Secondary School
ERIC	Career? Education or Career? Guidance and Elementary Secondary School
ERIC	Guidance and Vocational High Schools
ERIC	Comprehensive Education and Career? Guidance
ERIC	Career? Action Plan and Secondary
ERIC	Transition and Year 10
ERIC	Transition and High School
ERIC	Transition and Secondary School
ERIC	Vocational and Guidance and Secondary School
ERIC	Career? Advice and Year 9 or Year 10
ERIC	Career Education or Career Guidance and Grade 7 or 8 or 9 or 10
British Education index 1976-2003	Career? Education and 13-14 year olds
British Education index 1976-2003	Career? Education and Teenagers
British Education index 1976-2003	Career Choice and 13-16 year olds

Search engine	Search term
British Education index 1976-2003	Career Choice and Teenagers
British Education index 1976-2003	Application Skills
British Education index 1976-2003	Career Education or career guidance and Key Stage 3 or Key Stage 4
British Education index 1976-2003	Career Education or Career Guidance and Key Skill Attainment
British Education index 1976-2003	Be Real
British Education index 1976-2003	Make it Real
British Education index 1976-2003	The Real Game
British Education index 1976-2003	Preparation and GCSE
British Education index 1976-2003	CV Skills
British Education index 1976-2003	Careers Library
British Education index 1976-2003	GCSE/GNVQ/NVQ Decisions
British Education index 1976-2003	Comprehensive Education and Career? Guidance
www.ingenta.com	Career Guidance
Bids	Careers and Guidance
Bids	Vocational and guidance
ERIC/BEI	Career
ERIC/BEI	Career Guidance
BIDS/BEI	Careers Education
BIDS/BEI	Transitions
ERIC	Careers Education
BIDS/BEI	Career Aspirations
BIDS/BEI	Career Planning 1995-2002
BIDS/BEI	Connexions
BIDS/BEI	Key Stage 4
BIDS/BEI	Career Choice
BIDS/BEI	School to work
www.nfer.ac.uk	All Internal and External Research
http://careers.ngfl.gov.uk	All Key Docs
www.dfes.gov.uk	Careers Guidance
www.dfes.gov.uk	Transitions
www.dfes.gov.uk	Connexions
www.dfes.gov.uk	Disaffection
www.dfes.gov.uk	Education and Training
www.dfes.gov.uk	Youth Cohort Study
www.connexions.gov.uk	Careers Education Section
www.connexions.gov.uk	Info and Comms Technology
www.connexions.gov.uk	Out of print and date pubs
www.scre.ac.uk	Vocational Guidance
www.scre.ac.uk	Careers guidance
www.nacgt.org.uk	Digest
www.qcashop.org.uk	Career
Education-Line	Career Choice

Search engine	Search term
Education-Line	Careers education
Education-Line	Vocational guidance
www.connexions.gov.uk	Social Inclusion Series
www.dfes.gov.uk	Progress File
www.dfes.gov.uk	Careers Support and Youth Services
www.dfes.gov.uk	Themed Case Studies
www.crac.org.uk	
psycINFO	Careers guidance
www.ingenta.com	Career? Guidance or Career? Education
www.ingenta.com	Career? Guidance or Career? Education and secondary schools and Year 9 year 10 and year 11

APPENDIX 2.2.1: Further information on databases

Database information

The following information was taken from respective websites on 21 January 2004.

EBSCO <http://www.ebsco.com>

EBSCO stands for Elton B. Stephens Company. EBSCO Subscription Services, EBSCO Publishing and EBSCO Book Services form the EBSCO Information Services group. EBSCO is a worldwide leader in providing information access and management solutions through print and electronic journal subscription services, research database development and production, online access to more than 100 databases and thousands of e-journals, and e-commerce book procurement.

EBSCO has specialized products and services for academic, medical, government, public and school libraries as well as for corporations and other organizations. EBSCO maintains a comprehensive database of more than 282,000 serial titles and upholds active relationships with more than 60,000 publishers worldwide. EBSCO has been serving the library and business communities for almost 60 years.

INGENTA <http://www.ingenta.com>

Since its launch in May 1998, Ingenta has developed and grown to become the leading Web infomediary empowering the exchange of academic and professional content online. Ingenta supplies access to: 6,000+ full-text online publications; 27,000+ publications

BEI <http://www.bei.ac.uk/bei.htm>

The British Education Index (BEI) is designed to aid the identification of appropriate literature by people investigating aspects of education or training.

The Index provides details about the contents of various literature sources: over 300 education and training journals published in the British Isles, similar report and conference literature, and texts in the *Education-line* collection.

The range of subjects covered is as broad as the interests of researchers and writers active in the field. Particular strengths include aspects of educational policy and administration, evaluation and assessment, technology and special educational needs.

The Index is maintained within Leeds University Library by a small team responsible for all aspects of Index production including, crucially, the description of the subject content of literature by use of a consistent vocabulary (the British Education Thesaurus) designed specifically for this purpose. This attention to detail distinguishes the Index from similar discovery tools. The Index is available as a subscription print journal, on CD-ROM and over the internet.

ERIC <http://searcheric.org>

The Educational Resources Information Center (ERIC) is the nation's information

network connecting virtually all educational information providers and educational information users. ERIC is a public service that uses technology to increase access to education research and practice to improve learning, teaching, and community-based educational decision-making.

The ERIC database includes summaries of more than 1,200,000 documents and journal articles on education research and practice written since 1966. The ERIC database is the third most frequently used database in any field (*Computers in Libraries*, February 1995).

Via the Internet, ERIC provides electronic access to a wide range of educational information and resources including full-text lesson plans and tests, thematic essays, reference material, and pointers to what others are doing (eliminated 12/19/2003).

ERIC produces and disseminates more than 2,000 briefing papers (*Digests*) with over 150 titles added annually. These syntheses provide balanced coverage of all the important education topics, including educational management, assessment, professional development, technology and reform (no new Digests after 1/1/2004).

This was written around January 2003. Since that time, the US Department of Education decided to revise the structure of the ERIC System by eliminating all ERIC clearing houses and most of the services they provide. The government will continue to maintain the core ERIC database and will implement some sorely needed improvements (faster turn-around time, free access to ERIC documents). For more information, see <http://www.lib.msu.edu/corby/education/doe.htm> and this notice issued by the Department of Education on 25 November 2003.

BIDS

Bath Information and Data Services (BIDS) is the best known bibliographic service for the academic community in the UK. BIDS also provides access to the ingenta Journals full text service, both directly and also through links from database search results. Our mission is to provide, on a not-for-profit basis, the highest possible level of service to allow UK Academic institutions and their members access to bibliographic data, scholarly publications and research data. Launched in 1991, BIDS is believed to have been a world first - a national service providing widespread network access to commercially supplied bibliographic databases, free at the point of delivery.

BIDS performs an important role in the information strategy of the Joint Information Systems Committee of the Higher Education Funding Councils (JISC), and is one of three data centres funded by the JISC, along with MIMAS (located at Manchester University) and EDINA (located at Edinburgh University).

BIDS is managed by Ingenta on a fully accountable and not-for-profit basis. A major benefit of the relationship with ingenta is the seamless access for BIDS users to well over 5,000 full-text electronic journals.

PsycINFO <http://www.apa.org/>

PsycINFO is an abstract (not full-text) database of psychological literature from the 1800s to the present. An essential tool for researchers, PsycINFO combines a wealth of content with precise indexing.

APPENDIX 2.3: Journals handsearched

Journal
Applied Economics
Aspects of Education
Australian Journal of Career Development
British Educational Research Journal
British Journal of Education and Work
British Journal of Guidance and Counselling
British Journal of Physical Education
British Journal of Sociology of Education
Career Development Quarterly
Career Research and Development (NICEC)
Careers Education and Guidance (NACGT)
Careers Guidance Today
Children and Society
Children Now
College Research
Computers and Education
Early Child Development and Care
Educare
Education
Education and Health
Education and Information Technologies
Education in Russia, the Independent States and Eastern Europe
Education Section Review
Education and Vocational Guidance
Educational Studies
Educational Studies in Mathematics
ELT Journal
ERIC Digest
European Early Childhood Education
Forum
Health Education Journal
Health Education Research
International Journal for Education and Vocational Guidance
International Journal for the Advancement of Counselling
International Journal of Adolescence and Youth
International Journal of Community Education
International Journal of Educational Research
International Journal of Lifelong Education
International Journal of Qualitative Studies in Education
International Journal of Science Education

Journal
International Research in Geographical and Environmental Education
International Schools Journal
Journal of Adolescence
Journal of Career Development
Journal of Computer Assisted Learning
Journal of curriculum Studies
Journal of Education and Work
Journal of Education Policy
Journal of Learning Disabilities
Journal of Management Development
Journal of Occupational Psychology
Journal of Vocational Education and Training
Management in Education
Mediterranean Journal of Educational Studies
Muslim Education Quarterly
Newscheck
Open Learning
Oxford Review of Education
Personnel Today
School Librarian
School Psychology International
Scottish Educational Review
Signal
Studies in Higher Education
Teaching Geography
Times Higher Education Supplement
Tizard Learning Disability Review
Widening Participation and Lifelong Learning

APPENDIX 2.4: EPPI-Centre keyword sheet

<p>1. Identification of report Citation Contact Handsearch Unknown Electronic database (Please specify.)</p> <p>2. Status Published In press Unpublished</p> <p>3. Linked reports <i>Is this report linked to one or more other reports in such a way that they also report the same study?</i></p> <p>Not linked</p> <p>Linked (Please provide bibliographical details and/or unique identifier.)</p> <p>4. Language (Please specify.)</p> <p>5. In which country/countries was the study carried out? (Please specify.)</p>	<p>6. 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.).....</p> <p>*7 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.)</p> <p>8. Programme name (Please specify.)</p>	<p>9. 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.)</p> <p>*10. Age of learners (years) 0-4 5-10 11-16 17-20 21 and over</p> <p>*11. Sex of learners Female only Male only Mixed sex</p> <p>12. 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</p>	<p>13. Which type(s) of study does this report describe?</p> <p>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</p> <p><i>*see 14.</i></p> <p>14. To assist with the development of a trials register please state if a researcher-manipulated evaluation is one of the following: a. Controlled trial (non-randomised) b. Randomised controlled trial (RCT)</p> <p>15. Please state here if keywords have not been applied from any particular category (1-10) and the reason why (e.g. no information provided in the text).</p> <p>PTO to apply review-specific keywords (if applicable).</p>
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APPENDIX 2.4.1: Review-specific keywords

<p>A.1 Types of CEG intervention <i>Tick as many as apply.</i></p>	<p>A.1.1 Careers Interview</p> <p>A.1.2 Guidance Interview</p> <p>A.1.3 Career Action Plan</p> <p>A.1.4 Application Skills</p> <p>A.1.5 CV Skills</p> <p>A.1.6 Interview Skills</p> <p>A.1.7 Assessment Profile</p> <p>A.1.8 Other (<i>Please specify.</i>)</p>
<p>A.2 Delivery of CEG <i>Tick as many as apply.</i></p>	<p>A.2.1 Careers Co-ordinator</p> <p>A.2.2 Careers Teacher</p> <p>A.2.3 Careers Advisor</p> <p>A.2.4 Personal Advisor</p> <p>A.2.5 School teaching staff</p> <p>A.2.6 Parents(s)</p> <p>A.2.7 Government</p> <p>A.2.8 Other (<i>Please specify.</i>)</p>
<p>A.3 Modes of delivery</p>	<p>A.3.1 Face to Face</p> <p>A.3.2 Small Groups</p> <p>A.3.3 In the classroom <i>CEG curriculum: careers education/citizenship/PSHE</i></p> <p>A.3.4 Careers Resource Centres</p> <p>A.3.5 Careers Software</p> <p>A.3.6 Via Internet forum</p> <p>A.3.7 Via telephone</p> <p>A.3.8 Information packs</p> <p>A.3.9 Books</p>

	<p>A.3.10 Government Issued Information</p> <p>A.3.11 Other (<i>Please specify.</i>) <i>please specify</i></p>
A.4 Place of delivery	<p>A.4.1 School</p> <p>A.4.2 Connexions</p> <p>A.4.3 Careers Library</p> <p>A.4.4 Home</p> <p>A.4.5 Youth Centres</p> <p>A.4.6 Pupil Referral Centres</p> <p>A.4.7 Other (<i>Please specify.</i>)</p>
A.5 Outcomes measured	<p>A.5.1 Achievement of GCSEs/GNVQs</p> <p>A.5.2 Employment</p> <p>A.5.3 Disengagement of Learning</p> <p>A.5.4 Further education</p> <p>A.5.5 Work Experience</p> <p>A.5.6 Modern Apprenticeship</p> <p>A.5.7 Attitude Towards Learning</p> <p>A.5.8 Aspirations</p> <p>A.5.9 Capability</p> <p>A.5.10 Life Skills</p> <p>A.5.11 Motivation</p> <p>A.5.12 Other (<i>Please specify.</i>)</p>
A.6 Point at which outcomes were measured	<p>A.6.1 Key Stage 3 (Age 11-13)</p> <p>A.6.2 Key Stage 4 (13+ -16)</p> <p>A.6.3 At point of leaving school</p> <p>A.6.4 Other (<i>Please specify.</i>)</p>
A.7 Guidance recipients	A.7.1 Key Stage 3 students (11-13)

	<p>A.7.2 Key Stage 4 students (13+ -16)</p> <p>A.7.3 Students 11-16 (Use if specific Key Stage or age bracket not identified.)</p>
A.8 Sex of the recipients	<p>A.8.1 Male</p> <p>A.8.2 Female</p> <p>A.8.3 Both male and female</p>
A.9 Recipients' ethnic origin	<p>A.9.1 White (To include British, Irish and any other white background)</p> <p>A.9.2 Mixed (To include White and black Caribbean, White and black African, White and Asian, and any other mixed background)</p> <p>A.9.3 Asian or Asian British (To include Indian, Pakistani, Bangladeshi and any other Asian background)</p> <p>A.9.4 Black or Black British (To include Caribbean, African or any other Black background)</p> <p>A.9.5 Chinese or other ethnic group (To include Chinese and any other)</p> <p>A.9.6 Multi-ethnic</p>
A.10 Key influences on decisions	<p>A.10.1 Parents</p> <p>A.10.2 Peers</p> <p>A.10.3 Teachers</p> <p>A.10.4 Careers Advisors</p> <p>A.10.5 Personal Advisors</p> <p>A.10.6 Youth Club Workers</p> <p>A.10.7 Educational Welfare Officers</p> <p>A.10.8 Other (Please specify.)</p>

APPENDIX 3.1: Overview of studies included in the systematic map and in-depth review

Study	Country	Study type	Study topic focus	Outcomes measured
Edwards <i>et al.</i> (1999)	UK	Evaluation: naturally-occurring Evaluation: researcher-manipulated	Curriculum Teaching and learning The Real Game Career Exploration Programme	Specified Real Game Outcomes, such as the ability to understand the relevance of school subjects and the world of work, and gaining an insight into at least one occupation and working style Relevance to CEG – such as indicate the kind of future they want for themselves; identify advantages and disadvantages of different jobs Relevance to PSHE – such as to develop self esteem, confidence, independence and responsibility and make the most of their abilities
Howieson and Semple (1996)	Scotland	Description Evaluation: naturally-occurring	Curriculum Teaching and learning	Pupils' perceptions of CEG in school
Luzzo and Pierce (1996)	America	Evaluation: researcher-manipulated	Careers guidance	Career maturity
Morris <i>et al.</i> (1998)	England and possibly Wales although this is not clear in the report	Evaluation: naturally-occurring	Curriculum Teaching and learning	Career related skills
Morris <i>et al.</i> (2001)	England	Description Evaluation: naturally-occurring	Curriculum Teaching and learning CEG practices in schools; other topic focus Practices of careers services linked to schools	Perceptions of the careers education and provision in their schools
OHMCISW (1997)	Wales	Description Evaluation: naturally-occurring	Curriculum Teaching and learning CEG provision in schools including quality of teaching and learning	Quality of teaching and learning across KS 3 to 4 and Years 12 and 13

Study	Country	Study type	Study topic focus	Outcomes measured
Ofsted (1995)	England	Description Explorations of relationships	Curriculum Teaching and learning; CEG delivery in schools	GCSE choices Career maturity (i.e. knowledge of careers)
Ofsted (1998)	England	Description Evaluation: naturally-occurring	Curriculum Teaching and learning General provision of CEG	A range of outcomes measured, including: Knowledge, skills and understanding in CEG of learners and standards achieved Quality of CEG provision in schools Management and efficiency of provision
Peterson <i>et al.</i> (1999)	USA	Evaluation: researcher-manipulated	Curriculum Eighth-graders knowledge and awareness of high school curriculum Teaching and learning	Awareness and knowledge of high school curriculum and self-awareness (interests and aspirations)
Turner and Lapan (2002)	USA	Exploration of relationships	Career interests and vocational self-efficacy	Vocational self-efficacy and career interests

APPENDIX 4.1: Variables and concepts examined in the studies in the systematic map and in-depth review

Question – Which variables or concepts, if any, does the study aim to measure or examine?

Study	Judgement	Variables and concepts measured/examined
Edwards <i>et al.</i> (1999)	Explicitly stated	Specific career-related learning outcomes (knowledge and opinion)
Howieson and Semple (June)	Explicitly stated	Importance of individual guidance teachers; Qualities of a good guidance teacher; Support for the guidance system; Problems of access; The guidance structure; Extent and quality of contact; Awareness and use of guidance; Who is guidance for?; Guidance and discipline; PSE; Primary/secondary transfer; Subject choice; CEG; Contact with the Careers Service
Luzzo and Pierce (1996)	Explicitly stated	Career maturity as measured using the career maturity inventory scale
Morris <i>et al.</i> (1998)	Implicit	Like the research questions these have to be ascertained from the study aims: 1. Careers provision for 13 and 14 year-olds, both in terms of reports from schools and from young people 2. Young people's careers-related skills 3. Young people's satisfaction with careers education activities and their attitudes to further guidance
Morris <i>et al.</i> (2001)	Explicitly stated	Broadly speaking from the aims it can be seen that the study aimed to measure extent, type and quality of careers education being delivered in schools and careers services and the relative perceived impact of policy changes such as Connexions and the 1998 focusing agenda.
OHMCISW (1997)	Implicit	Provision and quality of CEG, teaching, learning, management, timetabling, interviewing, policy issues, computer-generated career profiles, work experience and career companies.
Ofsted (1995)	Explicitly stated	The standards and quality of students work in CEG and the factors that influenced it – quality of teaching; management, administration and staffing of CEG; quality and range of CEG curriculum; government initiatives; links with parents; equality of opportunity.
Ofsted (1998)	Explicitly stated	Standards achieved by students: Attainment in careers education knowledge; Attitudes and behaviour towards the subject Quality of provision: Quality of teaching; Quality of curriculum; Quality of support, advice and guidance; Quality of partnerships with parents, industry and the wider community Quality of management: Leadership and management in the provision of CEG; Staffing and staff development; Accommodation and resources; Efficiency
Peterson <i>et al.</i> (1999)	Explicitly stated	Career aspirations and area interest preference; Mastery of self-knowledge and educational knowledge and the ability to draw relationships between them

Study	Judgement	Variables and concepts measured/examined
Turner and Lapan RT (2002)	Explicitly stated	Occupational interests, career self efficacy expectations, perceived parent support for pursuing particular occupations, and career gender typing were measured using the MVC Career planning and occupational exploration efficacy were measured using the CPEE scale of the MCGS

APPENDIX 4.2: Details of participants in the studies included in the systematic map and in-depth review

Study	Country	Number of participants	Educational setting	Ages	Participants' gender	Participants' characteristics
Edwards <i>et al.</i> (1999)	UK	37 schools – 546 Real Game participants and 559 Comparison Subjects. 15 careers services	Secondary school Community colleges and technical colleges	12 to 13yrs	Mixed sex	SES: Not stated Ethnicity: Not stated SEN: Not stated
Howieson and Semple S (1996)	Scotland	6 schools; 193 pupils (96 boys and 97 girls)	Secondary school	11 to 16	Mixed sex	SES: Not stated Ethnicity: Not stated SEN: Not stated Schools described as representative
Luzzo and Pierce (1996)	USA	38 6 seventh grade, 32 eighth grade	Middle school	Range 12 to 15 with a mean 13.24	22 girls and 16 boys	SES: Not stated Ethnicity: 35 White students, 2 African Americans and 1 Native American SES: Not stated
Morris <i>et al.</i> (1998)	England (possibly Wales)	In the baseline study, there were 40 case study schools in which 205 staff were interviewed and 7,104 students completed surveys. In the follow-up study, 30 of the baseline schools agreed to take part again, 93 school staff were interviewed and 7,562 students were surveyed.	Secondary school	Young people who had just completed years 9 and 10	Mixed sex	SES: Not stated Ethnicity: Not stated SEN: Not stated

Study	Country	Number of participants	Educational setting	Ages	Participants' gender	Participants' characteristics
Morris <i>et al.</i> (2001)	England	528 responded from 986 sent questionnaires and 998 selected schools in postal survey. 37 out of 51 careers service chief executives 28 out of 30 case study schools to include interviews with 29 careers advisors; 25 senior managers; 24 careers coordinators; one work experience coordinator; 164 students taking part in discussion, of which 158 also completed a proforma collecting summary data; and 21 operations managers.	Secondary school	11 to 16 17 to 20	Mixed sex	SES: Not stated Ethnicity: Not stated SEN: Not stated Schools sampled to provide a range
OHMCISW (1997)	Wales	It is not stated how many students and staff were interviewed, or how many lessons were inspected. 10% of secondary schools across Wales	Secondary school	The schools involved in the survey included 11 to 16 and 11 to 18 schools. It is not clear how old the pupils that were interviewed were.	Mixed sex	SES: Not stated Ethnicity: Not stated SEN: Not stated
Ofsted (1995)	England	States 121 schools visits	Secondary school Special needs school	11 to 16 17 to 20	Mixed sex	SES: Not stated Ethnicity: Not stated SEN: 4 special needs schools visited

Study	Country	Number of participants	Educational setting	Ages	Participants' gender	Participants' characteristics
Ofsted (1998)	England	A total of 338 career lessons were observed; 3,217 students were interviewed; and 191 guidance interviews were observed	6 Young offenders institutions (YOIs) and 4 secure units Secondary school Special needs school	11 to 16 17 to 20	Not stated	SES: Not stated Ethnicity: Not stated SEN: Special educational needs incorporated into the study but no further information given
Peterson <i>et al.</i> (1999)	USA	The entire eighth grade of the school (n=72)	A developmental research school in a large south-eastern public university where the elementary school, middle school and the high school are all located on the same premises	8th Grade (age 13)	53% Male, 47% female	SES: Described as representative of the state Ethnicity: 71% Caucasian, 22% African American, and 7% were Native American or Asian American SEN: Not stated
Turner and Lapan (2002)	USA	139 participants	Middle school	Average age of boys (12.62), average age of girls (12.55)	79 boys and 60 girls	SES: Described as being from middle class neighbourhoods Ethnicity: 84 were Caucasian Americans 21 were African Americans 18 were foreign nationals from Asia, Africa and the Middle East, 12 were Asian Americans 3 were Hispanic Americans 2 were Native Americans SEN: One child had a reading disorder and was subsequently excluded from the analyses.

APPENDIX 4.3: Details of the aims and results of studies included in the systematic map and in-depth review

Study	Aim	Key results
Edwards <i>et al.</i> (1999)	<p>(1) To ascertain the extent to which the UK version of The Real Game achieved its intended learning objectives</p> <p>(2) to identify critical factors associated with its successful delivery and management</p>	<p>The authors draw a number of conclusions from the results of the study:</p> <p>Pupils appear to believe that that they learned most about present-day career-related matters relevant to their current personal situations. Large numbers believed that they had learned about working in groups and financial budgets. But they did not believe that they had learned quite so much about what might be more remote career issues, such as recruitment criteria and the future shape of work. Perceived learning was sufficiently independent of measured ability, sex and age (within the age group considered) to conclude that The Real Game appeared to be suitable for the generality of young people at this stage of their education.</p> <p>A test of relevant knowledge and opinions seems to have been influenced positively by participation in The Real Game. The most positive results relate to pupils' opinions about what they have learned and to objective data on learning outcomes as measured by the World of Work Questionnaire. This seems a reasonable expectation as the game sets out to communicate certain types of knowledge and opinions, and shows gains in these respects. On other measures, there is little evidence of positive effects. This may be because of the partial implementation of the game, and/or because these facets were not given sufficient attention in relation to other learning objectives.</p> <p>Pupils also said they had learned 'quite a lot' or 'a lot' about a wide range of career-related learning objectives, many of which were consistent both with the content of The Real Game and with career-related learning outcomes expected at KS 3. An inspection of teachers' perceptions of pupils' career-related learning accords closely with these findings. Although these outcomes have not been measured in precisely the same terms, the authors conclude that teachers' impressions about the Game's potential to contribute to career-related outcomes have a sound foundation.</p>
Howieson and Semple (1996)	<p>The central aim of the study was to examine the guidance needs of pupils and their parents; the organisation of guidance provision; and the effectiveness of this provision in meeting their needs. In relation to the specific focus of this data-extraction, the research was expected to address the</p>	<p>The focus of this data-extraction is on learners aged 11 to 16 years. (S2, S4 and S5 learners; conversion of these grades to ages was undertaken by reviewer.)</p> <p>The results are as follows:</p> <p>Young people's experience and opinion of guidance provision was heavily dependent on the attitude and approach of their own guidance teacher. There was no clear connection between</p>

Study	Aim	Key results
	<p>question, <i>How effective are current guidance arrangements in the schools studied in the view of pupils?</i></p>	<p>guidance staff's training and pupils' opinion of their effectiveness.</p> <p>Pupils had a very clear and consistent view of the qualities of a good guidance teacher as someone who listened and was understanding; liked children, took time and showed an interest in them. A good guidance teacher should be fair, should listen to pupils' side of issues and should not label pupils as 'good' or 'bad'. Other aspects of a good guidance teacher were the ability to preserve confidentiality, be trustworthy and should treat pupils with respect. All pupils believed in the value of the guidance system.</p> <p>A very common theme of pupils' comments was that guidance teachers were overloaded and did not have enough time. Access to guidance staff, because of lack of time and large caseloads, was identified as a problem by pupils in five of the six project schools.</p> <p>There was some difference in the perception of pupils compared with staff about the effectiveness of provision. Staff had concerns about the quality of the relationship between guidance staff and pupils.</p> <p>The majority of pupils believed that guidance should be there for all pupils, not just those with obvious needs or problems.</p> <p>There was some feeling among S5 pupils, especially in two schools, that contact with guidance was greater in the lower school but that now, more was required.</p> <p>Regular one-to-one interviews were generally viewed as a good idea to ensure a basic level of contact and knowledge.</p> <p>Regular interviews were also supported to circumvent what pupils acknowledged as their reluctance to approach guidance and thus be seen to have a problem.</p> <p>Pupils thought that their school could organise small groups rather than offer more individual attention.</p> <p>Pupils had contrasting experiences of guidance teacher's role and conduct about disciplinary matters.</p> <p>A common theme was that guidance teachers usually 'took the teachers' side'. Pupils wanted their guidance teacher to be prepared to listen to both sides. Most did not expect or want guidance teachers to 'be soft – being able to maintain discipline was seen as important'.</p>
		<p>Pupils' opinion about PSE ranged from the very positive to the very negative, with the majority somewhere in the middle. Although opinion in the same pupil groups tended to be in the same direction, pupils' reactions to PSE within schools were partly related to the PSE teacher.</p> <p>Around two-thirds of the pupil groups were critical about the methodology of PSE: the size of PSE classes; lack of, or poorly focused, discussion; an over-reliance on worksheets and videos; out-of- date or English focused materials; and inappropriate classroom layout. Some thought that teachers were uncomfortable about certain topics.</p> <p>The large majority of S2 pupils felt their school had made considerable effort to ease their transition from primary to secondary school. Most had had visits from guidance and other staff while at primary school.</p>

Study	Aim	Key results
		<p>All pupils had had considerable input at the second year option choice stage via PSE and interviews with guidance staff, but the majority were critical of at least some aspects of the process. Criticisms centred around lack of real choice; the desire for a greater careers input; and more time. Commonly felt that the interview had been rushed and some thought that the choices had to be made quickly to suit the school rather than the pupil.</p> <p>Post-school options were a major concern to all S4 and, especially, S5 groups. Pupils at S2 stage were also concerned about career ideas when making their choice of Standard Grade subjects.</p>
Luzzo and Pierce (1996)	To evaluate the effects of DISCOVER, a computer-assisted career guidance system, on the career maturity of student in middle school	<p>The author states that the study findings suggest that middle school students' attitudes toward career decision-making process may become more age-appropriate after using DISCOVER.</p> <p>Such a result highlights one of the potential benefits of CACG: specifically, that significant changes in a student's readiness to make realistic educational and vocational decisions can be realised in a relatively brief period of time. Counsellors who use DISCOVER and other CACG systems at the middle-junior high school level are encouraged to evaluate the effectiveness of program use on the career maturity of their students.</p>
Morris <i>et al.</i> (1998)	The main foci of this evaluation were to assess change and identify the impact of enhanced careers education and guidance provision: in particular, the main changes that had taken place in provision since 1994/5; the extent of change over time in young people's careers-related skills; the influence of different types of school and provision on both changes in skills and rates of change in skills; and the relationship between careers-related outcomes and specific careers education and guidance activities.	<p>Only the results relating to the impact of CEG on pupil outcomes have been used for the purpose of this review.</p> <p>There have been significant increases in young peoples opportunity awareness, factual knowledge, careers exploration skills and confidence in their transition skills since the baseline study was completed. There were no apparent differences in young peoples' self-awareness profiles or decision-making profiles, but opportunity awareness had a significant increase in 8%, careers exploration 5% and transition skills 6%.</p> <p>The increases were not uniform for all young people (or across all schools). In particular, some of the sex differences reported in 1996 were still apparent: in only one area, that of careers exploration skills, was there no apparent difference. Boys continued to demonstrate higher levels of opportunity awareness and to display greater confidence in their transition skills. Across the two cohorts, boys were also more likely to record higher levels of self-awareness, although girls were more likely to apply their self-awareness by actively considering their strengths and weaknesses. Girls were consistently more open to guidance and used a wider range of decision-making strategies than boys.</p> <p>Young people's development of careers-related skills was significantly associated with a number of school levels factors:</p> <ol style="list-style-type: none"> 1. School type: Students in schools without sixth forms were significantly more open to

Study	Aim	Key results
		<p>guidance than students in schools with sixth forms, both in 1995 and 1997. They were also more likely to consider their strengths and weaknesses when thinking about their future.</p> <p>2. The ability profile of the school: Factual knowledge, careers exploration skills and transition skills were significantly higher across both cohorts where the ability profile of their schools had a tendency towards a high level of academic achievement.</p> <p>3. Type of careers education and guidance provision: Students who were based in guidance community schools consistently demonstrated significantly higher levels of careers exploration skills than all other students.</p> <p>4. The level of careers exploration skills continued to be significantly lower where careers education and guidance was delivered primarily through parallel provision. Furthermore, young people's decision-making skills and openness to guidance were less well developed in such schools.</p>
		<p>Rates of change over time:</p> <p>1. Although there were no significant differences between the two cohorts in terms of self-awareness skills, the level of such skills had increased more rapidly in guidance community schools than in any other type of school.</p> <p>2. Rates of change over time in opportunity awareness were significantly lower in schools where there was little or no partnership with the careers service. Interestingly, while careers exploration skills were still significantly lower in such schools, they were increasing at a significantly faster rate than in either guidance community or pyramidal schools.</p> <p>3. The extent of awareness of education, training and labour market opportunities and young people's confidence in transition skills were increasing at a faster rate in schools in areas of high socio-economic deprivation. However, the students in these schools seemed to be less open to further guidance than other students.</p> <p>4. Factual knowledge and research skills were increasing at a faster rate in schools in which there was a tendency to low levels of ability, suggesting that there may have been more effective intervention in such schools many of whom started from a low base.</p> <p>What promotes self awareness?</p> <p>1. Levels of self-awareness were increasing at a greater rate in guidance community schools than in any others.</p> <p>2. No specific school activities seemed to be linked to raising self-awareness (as in 1995, the role of friends and family were paramount). There appeared to be some link with the wider careers education and guidance, and work-related curriculum programmes in schools. Young people seemed more able to identify their strengths and weaknesses where they had taken part in a school curriculum that had enabled them to develop confidence; helped them make</p>

Study	Aim	Key results
		<p>satisfactory subject choices at year 9; and given them some clear ideas about their future after the end of year 11.</p> <p>What promotes careers-related research?</p> <p>Schools that appeared to have the most success in raising young peoples' careers exploration skills were those that provided a comprehensive programme of careers education and guidance (including computer search activities, individual discussions and a range of lessons and group work sessions). However, it is also apparent that this was most successful when it carried out by trained specialist staff in association with members of the careers service.</p>
		<p>Decision-making skills: Neither cohort was particularly positive about the extent to which their careers education and guidance activities had contributed to their subject choices in Year 9.</p> <p>The authors conclude that, overall, the findings from this research are encouraging, suggesting that the increased investment in careers education and guidance in years 9 and 10 has in many ways proved an effective intervention in developing young peoples careers education and guidance skills.</p> <p>The findings of this research suggest that clearly targeted interventions, provided in collaboration between informed careers service and school staff, can have a significant impact on young people's careers-related skills. However, it is important that future developments are grounded in a mutual understanding of the aims and intentions of any proposed enhancements, and that school and careers service staff are encouraged to share information and ideas, and to make the most appropriate use of each other's skills.</p>
Morris <i>et al.</i> (2001)	<p>(1) To provide information on the extent, type and quality of careers education and guidance being delivered in schools and careers services</p> <p>(2) To suggest how schools and careers services should best seek to deliver careers education and guidance in the context of the new Connexions service</p>	<p>Morris <i>et al.</i> (2001) concluded that there were a number of difficulties arising from the introduction of the focusing agenda, as follows:</p> <p>Many difficulties encountered by careers services in introducing focusing and in launching Connexions have been of a result of lack of school awareness that these are national, rather than local initiatives.</p> <p>There is still a lack of awareness of the role of personal advisors, scope of Connexions and the implications for student support.</p> <p>Ambiguities over definitions of target group led to an almost universal use of social inclusion issues as criteria for guidance provision.</p> <p>The speed with which the focusing agenda was introduced meant that many schools were unable to accommodate necessary staffing and timetable changes, thereby putting pressure on careers services to continue previous levels of school-based provision.</p> <p>The lack of clear central coordination of initiatives has led to confusion at a local level and may</p>

Study	Aim	Key results
		<p>lead to a significant waste of resources.</p> <p>The focusing agenda has, in some cases, led to better provision for students who would previously have been lost in the system. In other instances, this has led to a polarisation and stigmatisation of careers services and the emergence of new priority groups.</p>
OHMCISW (1997)	<p>(1) To explore the nature of CEG provision in secondary schools in Wales</p> <p>(2) To analyse the standards and quality of teaching and learning in CEG and appraise the factors that influence them</p>	<p>Overall, the quality of CEG is satisfactory but there is a significant amount of unsatisfactory practice in KS 3, especially in relation to providing information that enables pupils to take account of the career implications of courses to be followed in KS 4.</p> <p>In general, the teaching by trained and experienced staff is good. Well-planned lessons, based on clear aims and objectives, give pupils a clear insight into career choices available and the implications of these choices. When a careers programme is taught by non-specialists, the quality of the teaching varies widely, especially at KS 3.</p> <p>The quality of learning at KS3 is unsatisfactory in the majority of schools, due mainly to an over-reliance on undemanding worksheets, which make insufficient reference to individual career aspirations. In almost all schools surveyed, CEG is delivered at KS 3 wholly through PSE programme. In addition to CEG, pupils undertake a number of other modules (e.g. health education and study skills). The amount of time allocated to CEG in Year 9 is between 2 and 12 hours, averaging about 4 hrs in the schools inspected.</p> <p>In many schools, pupils at KS 3 do not undertake sufficient work on identifying their individual strengths and aptitudes. Even when pupils have a good knowledge of their qualities, they do not always use this information sufficiently to make subject choices that will keep open a wide range of career routes. This is particularly important in Wales where the compulsory core in KS 4 includes relatively few subjects compared with KS 3.</p> <p>In almost all schools, accommodation is satisfactory and in some cases, good. However, in a significant minority of cases, access to library for pupils in Key Stages 3 and 4 is limited and careers areas in libraries are cramped, with little space for pupils to browse through literature or view videos.</p>

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Ofsted (1995)	To analyse the standards and quality of students' work in CEG and to appraise the factors that influenced it	<p>Approximately one-third of the schools were judged to be providing 'good' or 'very good' CEG for their students. In another third, strengths were balanced by weaknesses, while in the remaining schools, both the provision and its quality were 'poor' and provided only limited benefits to students.</p> <p>Schools provided generally sound careers guidance for students at the end of KS 3, KS 4 and the sixth form. Students needed to be helped to develop a better and more realistic understanding of the changing nature of the workplace and the implications for their own futures.</p> <p>The impact in the first year of the additional funding to support CEG for students in Years 9 and 10 had been modest and there was considerable confusion in schools regarding its purpose and scope.</p> <p>Standards of work in CEG were noticeably higher where schools had a good written policy on CEG covering each of the Key Stages linked to the school development plan and a planned programme of CEG provided by designated staff, who had received proper training and support.</p> <p>Between Year 10 and Year 11, most students demonstrated a significant growth in their knowledge and understanding of the post-16 choices open to them; and they had acquired many skills which would be useful in making decisions and implementing them. Most Year 11 students had only a limited understanding of post-16 GNVQ courses, offered in the sixth form or elsewhere. Students' knowledge and understanding of the demands of GCE A-level were also superficial among half of those who were considering this step.</p> <p>Relatively few institutions had a coherent and developmental CEG provision across the Key Stages.</p>
Ofsted (1998)	<p>(1) To produce a survey of careers education and guidance (CEG) in secondary and special schools</p> <p>(2) To assess the impact of recent government initiatives: for example, the reorganisation of the careers service into careers companies, and funding for careers libraries</p>	<p>The attainment of students (knowledge, skills and understanding in CEG) is satisfactory in about 70 % of secondary schools but not in 3 out of 10 schools.</p> <p>About half of the students make good progress at the end of KS 3 and during KS4.</p> <p>The quality of teaching is satisfactory in 8 out of 10 careers lessons. Half of the teachers have a very good understanding of CEG, but the other half are insufficiently trained for careers work and need further support.</p> <p>A quarter of schools do not offer a planned and well-organised programme of Careers Education. Provision varies in terms of the content and organisation, and time allocated for careers work is unacceptable. One in 10 schools allows no more than three hours of careers teaching in Year 10 and Year 11. One in five schools allocate more than 20 hours to the same year groups.</p> <p>Careers education is part of a programme of PSE in seven out of ten schools. The links and</p>

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		<p>relationships between careers units and other aspects of the PSE programme are frequently not clear to students. A poorly designed rotational system is used extensively by schools where, in the worst cases, students have to study how to apply for jobs and college places one and a half years before the earliest school leaving date.</p> <p>The recording and assessment of students' progress is a major weakness in the majority of schools. There is no nationally agreed system for assessing and recording students' progress in careers work.</p> <p>Relationships between schools and careers service companies are usually good. Careers advisers are making an important contribution to the quality of careers guidance in schools but have little influence on the design and content of CEG programmes. 90% of guidance interviews conducted by careers advisers are satisfactory or better. On occasions, they are excellent.</p> <p>Relationships between schools and employers are developing well. 95% of schools include work experience placement during KS 4.</p> <p>The majority of schools inform and involve parents in the decisions associated with Year 9 option choices, but the skills and experience of parents are rarely used within CEG programmes.</p> <p>There are not enough suitably qualified teachers of careers and only 33 % of coordinators hold a recognised careers qualification. The responsibilities and financial rewards of the co-ordinators vary considerably along with the amount of non-teaching time allocated by schools to support their work.</p>
		<p>One in 10 schools does not have a dedicated careers library and, in one-quarter of schools, the quality of information is unsatisfactory. Access to the library for one in four students is poor. Over half of schools have not made effective use of information and Communications Technology (ICT) for careers work.</p> <p>Careers co-ordinators are good at managing limited resources. The administration of CEG relies heavily on the goodwill of teachers to carry out administrative tasks, such as organising interview schedules and planning work experience placements. This is not an efficient use of their professional time.</p> <p>The Careers Library Initiative has been welcomed by the majority of schools and there is clear evidence to show that the quality of provision is improving. However, in a quarter of schools, the range and quality of careers information on offer is poor and the initiative is making little or no impact in one in five schools.</p> <p>The Year 9 and Year 10 Initiative is making a satisfactory impact in nearly half of schools and it has increased the amount of time for careers teaching in Year 9 in over half of schools. The additional time is spent effectively on work associated with option choices. introducing</p>

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		<p>students to the careers library and explaining the work of the careers service. The new careers service companies have been well received in the majority of schools. In the 10% of cases where impact is weak, there is not a good match between careers service and school priorities, administration tasks are more burdensome, and the companies are perceived to be more remote than previously.</p>
Peterson <i>et al.</i> (1999)	<p>To investigate the impact of three levels of career interventions on the educational choices of eighth-grade students as they prepare for the transition to high school. The immediate focus of the investigation was on the formulation of an appropriate four-year high school programme of study, consisting of required courses and electives that would provide a map of educational milestones for realising a student's career aspirations.</p>	<p>The authors conclude that there was a direct correspondence between the level of career intervention and the degree to which participants were able to demonstrate mastery criteria in completing a high school plan of study, particularly as the level of cognitive complexity of the criteria increased.</p> <p>Results suggest that both the Level Two intervention (with announcement and handouts) and Level Three (with computer-assisted classroom career guidance) are helpful in assisting individuals, preparing trial high school programmes of study, particularly in science and maths.</p> <p>Without at least some exposure to easily comprehensible print materials, many students risk choosing inappropriate maths and science courses to achieve their career aspirations.</p> <p>Teachers, counsellors and parents should be available to help students compensate for the lack of familiarity with maths and science requirements, by encouraging them to take these subjects so they stay in the pipeline.</p> <p>The intervention with the least cost implication (Level One) resulted in very few students being fully prepared to make educational decisions. The addition of print materials demonstrated improvements in preparation with slight increases in costs (Level Two). Although more costly, Level Three - where four class periods were dedicated to preparation to educational decision-making and support from careers counsellor and careers technology - all students met the performance criteria.</p>
Turner S; Lapan R. T; (2002)	<p>To assess the relative contributions of 'proximal' and 'distal' supports to the career interests and vocational self-efficacy of multi-ethnic middle school adolescents</p>	<p>Authors report the following:</p> <p>Results indicate that career self-efficacy, career planning/exploration efficacy and perceived support interactively predicted young adolescents career interests for all Holland themes. Specifically, our findings indicate that career self-efficacy and career planning directly and differentially predicted middle school adolescents' career interests across Holland themes. The distal factor of perceived parent support was not directly associated with young adolescents' career interests, but did directly predict their career self-efficacy. The proximal factors of gender and career gender typing directly predicted middle school adolescents' interests in realistic, investigative and social careers.</p>

Study	Aim	Key results
		<p>Results indicate that the set of predictor variables under study counted for more variance in Realistic (25%), Investigative (30%) and Social (23%) interests, although perceived parental support accounted for substantial proportions of the variance in career self-efficacy for all Holland themes. Post hoc analyses revealed that gender and gender typing were accounted for by participants' perceptions that more men were employed in Realistic and Imaginative careers; furthermore, participants perceived that more women were employed in social careers.</p> <ol style="list-style-type: none"> 1. The findings indicate that variance may be better accounted for in Artistic, Enterprising and Conventional careers by other proximal and distal factors not under investigation in this study. Approximately one-quarter of the variance in Realistic, Investigative and Social careers was accounted for by variables other than abilities and performance, suggesting that a variety of career counselling options may be effective in helping to make decisions. 2. The results indicate that career planning and career self-efficacy were both significantly associated with middle school adolescents career interests. This complements other research, showing the relative role of confidence in helping to make career decisions. 3. Finally, our results suggest that the strong association between young adolescents' perceptions of parental support for pursuing particular types of careers and confidence young adolescents have for performing tasks related to those careers may stand in contrast to older adolescents' dependence on other environmental factors.