



Early Years and Childcare International Evidence Project / October 2003

Child Outcomes

Susan McQuail | Ann Mooney | Claire Cameron | Mano Candappa | Peter Moss | Pat Petrie

Thomas Coram Research Unit, Institute of Education, University of London

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Disclaimer

The views expressed in this report are the authors' and do not necessarily reflect those of the Department for Education and Skills.

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1. Introduction

1.1 The Department for Education and Skills (DfES) commissioned researchers at Thomas Coram Research Unit to write five seminar papers in response to a number of policy questions concerning provision of services, child outcomes, quality, the workforce and funding and sustainability in the field of early childhood education and childcare. These papers review cross-national evidence concerning early childhood education and childcare (ECEC) services¹ for children aged from birth to 14 (16 for children with special educational needs)². The papers were written during 2002 and in conjunction with seminars held for policymakers in April 2002. A paper introducing the project and discussing the rationale for cross-national work, and a paper summarising the findings from the review are also part of this series.

Key findings

1.2

- Provision for children with special needs is gradually being brought within mainstream services (para. 2.2). National governments have a continuing role in ensuring equity of access to early childhood services for all groups (paras. 2.5-2.9).
- Most countries have worked towards codifying curricula for early childhood services (para. 3.1). There are wide variations in how prescriptive curricula are. Latitude for local interpretation is common in the Nordic countries, and central specification strongest in England and France (para. 3.5-3.8).
- All curricula include general goals of personal development, language and communication. They vary along a scale of detail and benchmarking on specific subjects, skills and competencies (paras. 3.5-3.8).
- Each country has attempted in different ways to link curricula for early childhood services with entry to school. Only Sweden has a curriculum for out-of-school provision, though Finland, Spain, Sweden and France are developing curricula in this area (para. 3.12).
- Pedagogy, or the process of teaching and learning, is as important as the curriculum. However, practice varies along a spectrum ('constructivist/instructionist') expressing different emphases on child-centred learning and preparation for school (paras. 5.3-5.5).
- Cross-national work on outcomes is scarce, but evidence from English-language countries shows the potential benefits of ECEC provision are greatest for children from disadvantaged backgrounds, although all children can benefit (paras. 6.11-6.12).
- All large-scale studies show the strong influence of family factors on child outcomes (para. 6.10). However, positive outcomes are also related to ECEC factors such as the age at which children enter ECEC and the quality of the provision, both of which have funding implications (paras. 6.13-6.23).
- There is evidence from some longitudinal studies from English-language countries that pre-school provision adds value. However, the multiplicity of factors, within ECEC services and society more generally,

¹Childcare refers to both group and home-based services, but not childcare provided by parents, relatives or friends. In the UK early childhood education and childcare (ECEC) services would include childminders (family day care providers), pre-schools, day nurseries, nursery classes and nursery schools, reception classes and out-of-school provision. Throughout these papers, ECEC generally refers to services for children below compulsory school age, whilst childcare for children of compulsory school age (i.e. out-of-school services) is usually discussed separately.

²Lack of cross-national data in some areas, discussed in each paper where appropriate, may limit the age range covered



are unlikely to remain constant over the longer term (paras. 8.1-8.5).

What are the benefits of cross-national study?

- 1.3 International evidence introduces the idea of cross-national sharing of experience and practice in areas of common interest, and in a rigorous way that enables account to be taken of national similarities and differences. It opens up more choices and can be a stimulus for policy learning and innovation. The introductory paper in this series of seminar papers (Moss et al., 2003) provides a fuller discussion.

Which countries are included in this study?

- 1.4 The seminar papers include evidence from 15 countries, which have been grouped according to differences in welfare regime (Moss et al., 2003).
 - Four 'English-language' countries—Australia, New Zealand, United Kingdom (UK) and United States (US);
 - Four 'Nordic' countries—Denmark, Finland, Norway and Sweden;
 - Seven 'Other European' countries—Belgium, France, Germany, Italy, the Netherlands, Portugal and Spain.
- 1.5 The study sets out to review international evidence to help answer the policy questions formulated by the DfES, and to identify gaps in the evidence. Although the UK³ is one of the countries under review, the study does not set out to provide extensive detail on UK policies and practices in all areas covered by these papers.

The focus of this paper

- 1.6 This paper focuses on a number of issues related to child outcomes and considers how ECEC services promote social inclusion, the respective contributions of curricula and pedagogical approaches, and what factors influence child outcomes.
 - 1.7 There is little cross-national evidence on outcomes, which is the term used predominantly in the English-language countries. A search of the bibliographic databases for the period 1998-2002⁴ found only references from these countries. Thus the questions relating specifically to child outcomes (6, 7 and 8) are answered mainly through examination of this material and are not truly cross-national.
 - 1.8 As we shall see from the findings from this research (paras. 6.10-6.24), there are many factors influencing child outcomes including family, child and ECEC characteristics. This makes it difficult to measure the relative impact of any one factor. It is important also to have in mind the limitations of research in providing absolute answers to complex and multi-layered questions, which we discuss later (paras. 6.4-6.5).
- ## **2. What are the different approaches and levels of investment in early intervention?**
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- 2.1 Differences in government structures, welfare regimes and understandings of childhood lead to different approaches to, and levels in,

³ Unless otherwise stated, the UK refers to England, Northern Ireland, Scotland and Wales.

⁴ An earlier review of the literature on child outcomes considered publications up to 1997 (Mooney and Munton, 1997).

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the provision of services (see the briefing paper introducing the project (Moss et al., 2003), and the paper on provision (Petrie et al., 2003) for more detail). Levels of investment are covered in the paper on funding (Candappa et al., 2003). This section therefore focuses on promoting inclusion and meeting different needs in early intervention.

Promoting Inclusion—Children with special needs

- 2.2 Up to 15 to 20 percent of children have special needs at some time during their school career, although few countries at any given moment fund education for such children at these levels (OECD, 1999). In the last ten years there has been important progress in all countries in terms of legislation and the right to inclusion (OECD, 2001). A cross-national review of curricula notes that: *'In all the countries there was a policy of full inclusion of children with special needs within mainstream wherever possible'* (Bertram and Pascal, 2001).
- 2.3 Generally, special provision is not made for children with special needs until statutory school age, but in England there is some special provision in schools and opportunity playgroups for children under statutory school age with special educational needs. In the Nordic⁵ countries, for children with special needs in integrated services *'... there is a conscious policy to ensure that such children have priority in enrolment and additional resources are allocated to reduce child-staff ratios and to provide more individualised attention and specialised staff'* (OECD

2001: 58). Bertram and Pascal note: *'England, Italy, Sweden and the US offer early access to early years provision [and] in Australia, France, Germany and Sweden, they are held in early childhood provision until they are able to operate in inclusive mainstream settings. In England, The Netherlands, New Zealand, Spain and Sweden additional support is provided within mainstream'* (Bertram and Pascal, 2001). In the US, federal government provides funding for a state-wide plan for including children with special needs in a variety of early childhood programmes (OECD, 2001: 59). In Head Start programmes where 10 percent of the places are intended for children with disabilities, 13 percent of the places are filled with these children (OECD US Country Note, 2000).

- 2.4 The OECD study concludes that as well as changes in structures and systems (e.g. funding, organisation and management of services; flexible pedagogical approaches and curricula, staff ratios and training; parental involvement and partnerships with other agencies), inclusion of children with special needs depends on changes in public attitudes to children with any kind of special need (OECD, 2001).

Indigenous groups

- 2.5 Several countries make provision for indigenous groups through ECEC services in their own mother tongue, such as the Sammi in Norway, and Welsh and Gaelic in Wales and Scotland. In both New Zealand (Meade and Podmore, 2001) and Australia (OECD, 2001) the indigenous

⁵Denmark, Finland, Norway and Sweden



populations, who have not enjoyed equal access to early childhood services, now have their own.

Minority ethnic groups

2.6 All countries are becoming ethnically more diverse as a direct result, particularly recently, of immigration. How and to what extent groups from minority ethnic communities are included within the indigenous society is an issue in the study countries. Early childhood services are a prime mechanism for social inclusion both in terms of language, culture and preparation for schooling.

2.7 In the Nordic countries, where child poverty levels are low, making early childhood services more generally available on a universal basis with entitlements has not in itself led to equal access to services for immigrant groups. For example in Denmark, children of immigrants (4% of the population) frequently do not access services until the kindergarten class. In Norway, where new immigrant groups constitute 3 percent of the population, less than 40 percent of these children attend *barnehage* (OECD, 2001). Sweden, where 18 percent of the population are first or second generation immigrants, is addressing the issue through a programme of making three-hour daily sessions available free for all children over three. Sweden is also providing open pre-schools where parents and children can attend together including pre-school mother tongue groups for pre-school children whose first language is not Swedish. In Finland, special provision is being planned for

the small immigrant population in Helsinki.

2.8 The UK and US continue the tradition of targeted interventions to combat disadvantage caused in part by higher levels of poverty, including among others, families from minority ethnic groups, through area-based programmes. As such, they do not reach all disadvantaged children. The Head Start programme in the US reaches 36 percent of the eligible population (OECD US Country Note, 2000). In the UK (England), Sure Start will not reach all or even most children in poverty in the immediate future. *'Sure Start aims to reach one third of under-fours living in poverty by 2004'* (letter from Baroness Ashton to Early Years Development and Childcare Partnerships, July 2002).

2.9 In the 'Other European' countries⁶, there is a range of measures to include children from minority ethnic groups. In the French community of Belgium, the universal *école maternelle* and childcare are seen as powerful tools against social exclusion (OECD, 2001). In the Flemish community, the Government makes significant investments in social inclusion and priority education programmes and has taken steps to ensure the perspective of minority ethnic groups in the delivery of services (OECD, 2001: 120). In the Netherlands there are special early childhood programmes for children from these groups and *'staff from immigrant backgrounds, who are trained and fairly paid to work alongside the other early childhood professionals, help facilitate*

⁶ Belgium, France, Germany, Italy, the Netherlands, Portugal and Spain

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Table 1: Aspects of the curricula across the study countries

Country group	Country	Auspices/ level	Ages covered	Coverage	Type of curricula	Special features
Nordic	Denmark	Municipal and programme	0-6		No formal curriculum	–
	Finland	National	0-6	All providers	Framework curriculum	–
	Norway	National	0-6	All providers	Framework curriculum – activities worked out by committee of parents/staff	Children's culture, Environment.
	Sweden	National	0-6	Publicly provided provision (over 90% of total)	Framework curriculum with local interpretation	Democracy, citizenship, environment, creativity. Welfare and education linked.
English language	Australia	Territory	4-7	Public, private and voluntary	Expert driven e.g. – Tasmania.	Variation from territory to territory.
	New Zealand	National, but not compulsory	0-5	All licensed providers i.e. in receipt of public funds	Guidelines: local interpretation broad principles and goals	Bicultural, bilingual, inclusive of different philosophies.
	UK(England)	National	3-6	Settings in receipt of government funding to provide early education	Expert, outcome-driven	Equal opportunities and respect for diversity.
	US	State	4-7	Variation from state to state	Range – from expert-driven to local interpretation	Conflict between State curriculum and some national programmes.
Other European	Belgium Flanders and Walloon	Umbrella organisations for each community	3-6	All providers	Expert-driven programme of specified activities	'Competency foundations' and 'programme of activities'.
		ONE (W) and Kind and Gezin (FI)	0-3	All providers	Framework document	
	France	National	3-6	Public provision and employed family daycarers	Expert-driven through regular 'circulaires'	'Livret scolaire' specified subjects and competencies.
	Germany	Land	3-6	Public and voluntary provision	Basic principles only; local interpretation	Environment.
	Italy	Regional	3-6	Public provision	Guidelines 'orientanti' only at national level	Citizenship, creativity.
	Netherlands	Municipal and Programme Even at primary school	4-6	Basis-school, and kindergarten not private	Preparation for school included	Prototypes e.g. Kaleidoscope; High/ Scope and Piramide; Success for All.
	Portugal	National	3-6	All jardins d'infancia whether under Ministry of Education or Work	Guidelines, not a programme Set of principles	Covers several programmes and many pedagogical models.
	Spain	National, but scope for initiatives at regional, local and setting level	0-6	All providers	Broad general framework	Allowance made for language and culture e.g. Catalan. Pedagogical principles for each curricular block.



communication and understanding among children, families and other staff members' (OECD, 2001).

3. Do other countries operate any type of curriculum and, if so, how does this compare with the Foundation Stage in England?

3.1 There has been increasing recognition that children's early years are an important time of learning and

education in general, as well as a preparation for a life of change. Most countries have worked to codify what goes on or should go on in terms of teaching and learning for children and have developed curriculum documents or guidelines. The Curriculum Guidance for the Foundation Stage in England describes the curriculum as *'Everything children do, see, hear or feel in their setting both planned and*

Figure 1: English curriculum guidance for the Foundation Stage (DfEE/QCA, 2000)

Principles include:	'Ensuring that all children feel valued and secure and no child should feel excluded'; 'Parents and practitioners working together; providing opportunities for children to engage in activities planned by adults and also initiated by themselves'.
School starting age:	5, in practice 4
Ages covered:	3-6
Length:	127 pages
Services covered:	Applies to all maintained services -schools and nursery schools and classes; also voluntary and private services including networks of childminders, who are all regulated by OFSTED and who receive Nursery Education Grant for three and four year olds.
Content :	Six areas of development and early learning goals which are specified competencies for most children to attain by the end of the Foundation Stage.
Delivery:	Comprehensive document outlining work with detailed suggestions for planning, assessment, teaching, content and methods
Staff qualifications:	Teachers (QTS) in maintained provision; in the private and voluntary sector, manager trained to NVQ Level 3 and 50% of other staff trained to NVQ Level 2. Guidance to the Early Years Development and Childcare Partnerships (EYDCPs) requires working towards the involvement of a QTS in non-maintained settings at a ratio of one QTS to 10 settings by April 2004. Funding to implement this is included in the Standard Spending Assessment for local authorities.
School curriculum:	The National Literacy and Numeracy Strategies overlap with the Foundation Stage in the reception year.

Figure 2: Swedish curriculum for the pre-school (Ministry of Education and Science, 1998)

Fundamental values:	'Pre-school activity should be carried out in accordance with fundamental democratic values. Each and everyone working in the pre-school should promote respect for the intrinsic value of each person as well as respect for our shared values'. These shared values include respect for the environment.
School starting age:	7
Ages covered:	1-6
Length:	16 pages
Services covered:	Applies only to publicly provided services (only 6 % of total is private) and employed family day care providers.
Content:	Contains almost nothing on content and working methods.
Delivery:	To be worked out at local level with staff and parents.
Staff qualifications:	Over half of staff have received tertiary education in pedagogy and the assistants receive some training.
School curriculum:	Covers out-of-school too.

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⁷Now the Department for Education and Skills (DfES)

*unplanned*⁷ (DfEE⁷/QCA, 2000: 1). Curricula across countries tend to look forward, have a purpose, set expectations, and be goal-oriented. Key differences are found in responsibility for curriculum development, the ages covered by the curriculum, which services it applies to, the type, principles and content of the curriculum and the degree of prescription or autonomy in implementation (see Table 1). To illustrate these differences we have taken two examples, England (Figure 1) and Sweden (Figure 2), because they represent either end of a continuum or spectrum (see para. 3.5).

Auspices/level

- 3.2 Curricula or guidelines are increasingly articulated at national level by the ministry under whose auspices services are delivered or regulated (see briefing paper on provision of services, Petrie et al., 2003). France (1995), Norway (1996), New Zealand (1996) and Sweden (1998) like the UK (England) have national documents. Those countries that do not have national curriculum documents include federal countries and other countries with a high degree of formal devolution. Denmark, for example, has a strong tradition of decentralisation and commitment to the idea of early childhood as different from and less formal than schooling. In the French and Flemish speaking communities in Belgium, although the Ministry of Education approves the curriculum, development rests with three 'umbrella' organisations that govern the different types of school. Some Australian Territories, such as

Tasmania and Queensland, have their own curricula. In the US the curriculum, like education generally, is a matter for each state. However, the federally funded Head Start programme does have a curriculum, which is specifically designed for those at risk of school failure and heavily slanted towards educational preparation. In Germany pre-school education is the responsibility of the *Land* (the constituent unit of federal Germany) but even at that level it has the least developed curriculum of all the countries under study.

Ages covered

- 3.3 As with the Foundation Stage in England, curricula apply mainly to children aged between 3 and 6. However, in the Nordic countries the curricula cover the whole age group from birth to 6 reflecting their age-integrated provision. Both New Zealand and Spain have also developed a curriculum for the whole age range, as part of bringing all services within Education. In French-speaking Belgium there is a framework document for children birth to 3 developed by ONE, a government agency, which contrasts with the expert and competency-based curriculum for children 3-6 coming from the Ministry of Education. Other countries have begun to develop curricula for the youngest children, realising the importance of improving the quality of services to this age group. England has developed a framework of effective practice. Germany and the Netherlands have not as yet.



Coverage

- 3.4 Some national curricula are directed towards all providers (Belgium, Italy and Portugal) whilst others apply only to services, whether public or private, receiving public funding for nursery education (e.g. New Zealand and England). This flows from a wish to weld the disparate providers into a more coherent service and to ensure good quality services and continuity. Such a requirement does not apply fully in France, Italy, the Netherlands and Sweden, though in France and Sweden it does apply to publicly employed family day care providers.

Type of curricula

- 3.5 Early years curricula cross-nationally represent a continuum. At one end are the open, integral and consultative curricula as found in the Nordic countries (Bennett, 2000). Here the local authorities or individual settings interpret curricula frameworks and involve staff, parents and other stakeholders in the process. At the other end are the expert, competence-driven curricula to be found more in the other European and English-language countries. How much trust the national guidelines place in the provider to deliver the curriculum appears to relate to the level of staff training (see briefing paper on the workforce (Cameron et al., 2003) for further information).

Early years curricula: common principles and values

- 3.6 Bertram and Pascal (2001: 26) in their international review of curricula, find common principles:
- *'a child-centred, flexible and*

individually responsive curriculum;

- *importance of working in partnership with parents;*
- *need to offer broad and relevant learning experiences in an integrated manner;*
- *importance of play and active, exploratory learning;*
- *an emphasis on social and emotional development;*
- *need to empower the child to be an autonomous, independent learner;*
- *but also differences in how curriculum areas are defined.*

- 3.7 Individual countries stress additional values and principles such as the environment (Germany, Norway and Sweden), democracy (Sweden) and children's culture (Norway). The UK is exceptional in including reference to equality of opportunity and respect for diversity.

Early years curricula: content

- 3.8 All curricula include general goals such as good self-concept, language and communication skills. They also stress specific developmental goals, including physical, emotional, intellectual and social. Cognitive-oriented programs are common for 3-6 year olds. Beyond that several countries include:
- Subject learning areas such as language and literacy, mathematics, science (e.g. Belgium, UK (England), Italy and the US).
 - Skills in these areas that children should have attained on starting statutory schooling such as comparing, sorting, matching and counting (e.g. US).
 - Learning dispositions (Bennett, 2000), which are more general learning

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attitudes and competencies. (In England these are mainly specified in the personal, social and emotional and creative development areas of learning in the Foundation Stage curriculum.)

- 3.9 The degree of detail found in England's early learning goals of the competencies that most children should acquire by the end of reception year of primary school (by the end of the year in which they reach 5), is less common elsewhere. It should be said that the Foundation Stage has been prepared in this way because it is not only teachers but also less well-qualified staff who are delivering the curriculum.

Dissemination of the curriculum

- 3.10 The qualifications and training of staff in delivering the curriculum vary between countries and are discussed in the briefing paper on the workforce (Cameron et al., 2003). But how the curriculum is disseminated is also important. In Sweden, every community has a sum of money to use to educate its pre-school staff in accordance with the new goals of the curriculum (Alvestad and Samuelsson, 1999). In the French speaking part of Belgium, ongoing in-service training of personnel supports the curriculum (Bennett, 2000 and the briefing paper on the workforce, Cameron et al., 2003). England is in the process of putting in place a programme of training both on the curriculum and to address the low level of qualifications of staff in early years settings in the private and voluntary sectors. Staff delivering Foundation Stage education will

receive a minimum of four days training a year on the curriculum by 2004 (DfES, 2001).

Links to school

- 3.11 Attempts have been made everywhere to link the early years curriculum to what comes next in school, but in very different ways in the different countries. For example:
- In the European countries with a 'pre-school publicly funded model', early childhood services are seen as the first stage of education. In the Netherlands, 4 year olds in school, although attending on a voluntary basis, follow the primary curriculum.
 - In the Nordic countries, the primary school curriculum was changed to provide gradual transition from early childhood. For example, Sweden has altered the pattern of the school day with a view to the school accommodating children rather than the reverse.
 - In New Zealand, having a universal early years curriculum which applied to children aged from birth to 6 has enabled early childhood services to resist school-based pressure (Meade and Podmore, 2001).
 - In England and the US, the national aim of early childhood services is likely to remain focused on school readiness and the first stage of life-long learning. The Early Learning Goals and the Foundation Stage which currently overlap the divide between early years services and school may, however, 'create a buffer against the downward pressure of formal instruction from the national curriculum or from the national literacy and numeracy strategy' (OECD UK Country Note, 2000: 45).



Out-of-school curricula

3.12 Only Sweden has a curriculum covering out-of-school services, though curriculum frameworks are under development in Finland, France and Spain (see the paper on provision of services, Petrie et al., 2003) whilst England is developing a 'Playcare Framework'. Curricula for out-of-school services tend towards informality. They are strongly influenced by children's choice, with parents and others outside the school commonly involved. They are generally weighted towards leisure activity complementing formal schoolwork. There are two themes that are more formal: supervised homework (Germany and Belgium) and prioritising the needs of disadvantaged groups (the Netherlands), which may include remedial activity such as foreign languages and IT skills. In France, through the *Contrat Educatif Social* (see paper on provision of services, Petrie et al., 2003), schools are encouraged to embrace local cultural and knowledge resources. Sweden is alone in combining the school and out-of-school curriculum.

4. What is the range of pedagogy in the Foundation Stage?

4.1 Issues about the use of terms such as pedagogy, which have different meanings in different countries, are discussed in more detail in the introductory paper (Moss et al., 2003). Here we use pedagogy in the British sense as the process of teaching and learning – which complements the curriculum – the content of ECEC services. One recent attempt at

definition may be helpful: 'We understand these terms [pedagogy and pedagogical work] as a way of relating to the world and other human beings which is value-based and complex, and views knowledge as produced through co-construction, teacher, pedagogue not neutral, knowledge not immutable and student not passive' (Dahlberg et al., 1999: 18).

4.2 We regard the distinction between pedagogy and curriculum as useful, although some texts reviewed for this study use the terms interchangeably. More familiar are individual pedagogies such as Steiner, Froebel, High/Scope, Montessori and Reggio Emilia. Bennett reviewing cross-national practice sets out what he sees as 'agreement on fundamental features of the pedagogical approach:

- respecting children's individuality
- channelling children's interests through structuring the pedagogical relationship and the children's environments
- holistic development of children i.e. not just readiness for school but the right to friendship and play
- discouraging curricula that segregate children and tend towards didacticism' (Bennett, 2000: 21).

4.3 Obviously, this is general and does not mean that these features are everywhere present or to the same extent. Bertram and Pascal confirm the application of this consistent pedagogical approach in the early years, terming it: '*interactional pedagogy: where children and adults operated in reciprocity with one another; [in particular] there is an encouragement of play-based first*

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hand exploratory experiences which provide children with opportunities to talk and interact' (Bertram and Pascal, 2001: 28).

- 4.4 Curricula in Norway and Sweden highlight the significance of play within a whole range of activities. In Germany: *'the aim is to achieve a readiness for school by channelling the child's natural urge to play'* (Bertram and Pascal, 2001: 42). The Foundation Stage discourages a distinction between play and learning: *'During the Foundation Stage many of these aspects of learning are brought together through playing and talking'* (DfEE/QCA, 2000).

- 4.5 There have been recent attempts to refine the aspects of pedagogical practice that are effective in leading to positive outcomes for children. Qualitative research linked to a longitudinal study in the UK (England) found that the most effective pre-school centres in terms of good outcomes for children had:
- a good balance, for children, between freely chosen yet potentially instructive play activities and adult-initiated activities that include those directed at literacy and numeracy goals;
 - 'sustained shared thinking' between adults and children;
 - both the kind of interaction traditionally associated with the term 'teaching', and also the provision of instructive learning environments and routines (Siraj-Blatchford et al., 2002b). Furthermore, effective practitioners assessed children's performance to ensure the provision of challenging

yet achievable experiences. They modelled appropriate language, values and practices, encouraged socio-dramatic play, praised, encouraged, asked questions and interacted in a sustained way.

5. What is the balance, and the underpinning rationale, between care and education and between formal and informal approaches?

Care and Education

- 5.1 The historical distinction between 'care' and 'education' prevalent outside the Nordic countries has come to seem artificial in the light of international debate and practice. In England and elsewhere, the distinction has long been embodied in policy and administration. Education is seen as serving intellectual needs, and care as serving physical and emotional needs. This distinction has drawn upon and been encouraged by theories of child development, such as Piaget's theory of developmental stages. However, with the influence of developmentalists such as Vygotsky, it is now widely acknowledged that education begins at birth and separating education and care is no longer sensible (see Mooney and Munton, 1997). The curricula of the Nordic and other European countries best reflect this understanding. For example, the Swedish pre-school curriculum states: *'The pre-school should be characterised by a pedagogical approach, where care, nurturing and learning together form a coherent whole'* (Ministry of Education and Science, 1998:12).



5.2 Curriculum documents also vary in the extent to which they incorporate teaching methods or pedagogy. The Norwegians provide a detailed framework for teachers with suggestions for content, organisation and working methods, whilst the Swedish curriculum (see Figure 2) contains almost nothing of this kind (Alvestad and Samuelsson, 1999). Furthermore, differences between curricula and how they are implemented in practice, as found in the results of the UK (England) Effective Pedagogy in the Early Years Project (Moyle et al., 2002), may again be attributable to differences in levels of training (see the briefing paper on the workforce, Cameron et al., 2003).

Formal and informal approaches

5.3 Despite the common features described above (para 4.2), there are differences in terms of formal and informal approaches to curricula and practice. The 'instructivist' and 'constructivist' approaches as illustrated in Table 2, usefully represent different parts of the spectrum rather than hard and fast distinctions.

However, the purpose or rationale for the approach and practice in early childhood services tend to cluster in different types of settings if not necessarily in different countries. There is also not necessarily a neat fit with the different types of welfare regimes except that the Nordic regimes are explicitly constructivist.

'Instructivist' approach

5.4 With this approach there is an emphasis on preparing for school and focusing on literacy and numeracy, aiming for equality of educational opportunity and the means to improve later education. This approach is taken where early childhood services for children 3-6 are seen as the initial stage of schooling. Here grouping tends to be according to age, the pedagogical approach more formal, with higher staff:child ratios and specialist teachers. The setting is more organised and planned and there is less emphasis on children's self-initiative. The US and some European countries with school-based systems for 3-6 year olds (e.g. France and Belgium) sit here. In England there is

Table 2: Formal and informal approaches to curricula and practice

Constructivist	Instructivist
Child-initiated	Teacher- initiated/directed
Child-centred	Teacher-centred
Play-based, progressive	Didactic/traditional
Personal/social development	Basic academic skills
Developmentally appropriate	Developmentally inappropriate
Process oriented	Product oriented
Informal/emergent	Formal/structured
Children constructing their own knowledge	Core knowledge

Source: OECD US Country Note 2000:26

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certainly some practice that conforms to this type, mainly where parental preference dictates it as in the private sector.

'Constructivist' approach

- 5.5 This approach sees early childhood as a stage in its own right. Children are seen as competent and agents of their own learning, co-constructing knowledge through dialogue with practitioners. This goes alongside an integrated pedagogical approach for children from birth to 6 with grouping across ages for at least part of the time. The latter occurs typically in Germany for 3 to 6 year olds and Sweden across the whole age range, following the Steiner principle that children learn from each other. The Nordic countries and Reggio Emilia in Italy also sit at this end of the spectrum. Sweden and Italy specifically discourage the use of early disciplinary and prescriptive methods of instruction. Some would see the Curriculum Guidance for the Foundation Stage in the UK (England) as explicitly constructivist even if the practice in settings is not, and also in relation to the instructivist national curriculum that follows in statutory schooling. The High/Scope approach in the US also includes key elements of the constructivist approach (OECD US Country Note, 2000).

Between 'instructivist' and 'constructivist'

- 5.6 Australia, the Netherlands, New Zealand, Portugal, Spain and the UK (England) sit somewhere in between, with a holistic view of children while also giving explicit priority to emergent literacy.

- 5.7 A clear conclusion of work on pedagogy is the requirement for personnel who are able to draw on theoretical concepts in their practice – '*well-trained adults able to scaffold children's learning*' (David et al., 1993), through sensitive and responsive adult communication that serves to stimulate children's thought and action. Appropriate interventions are various and require discrimination and professional discretion. There is some evidence from the US that the formal approach can further disable practitioners who have low levels of training (OECD US Country Note, 2002) and from England, that concentration on outcomes and the impact of the literacy strategy is pushing out spoken communication. Less qualified practitioners tend to concentrate on the literacy and numeracy goals, which are more prescriptively defined and specified than the others (DfEE/QCA, 2000:64 and 74; English et al., 2002; Locke and Ginsborg, 2002).

6. What cross-national work exists on child outcomes and does such work indicate what factors may influence outcomes?

- 6.1 There is no systematic cross-national work directly comparing the outcomes for children using early childhood services as there is in the field of schools, where there are comparisons of results in maths and other subjects as in the PISA study (OECD, 2001). In addition to the reasons outlined in the introductory paper (Moss et al., 2003) such as differences in concepts, purposes and values, the technical, methodological



and expense issues of such research no doubt account for the lack of systematic international comparisons.

- 6.2 Most of the evidence on outcomes comes from English-language countries, particularly the US, but also the UK (England) and New Zealand. Two Swedish longitudinal studies (see Table 3) were undertaken in the 1980s and 1990s, though the Stockholm study (Andersson, 1989) took place when services in Sweden were less developed and before the introduction of parental leave. Few Swedish children under a year are now in childcare. Motivation for research on outcomes derives from conditions (and countries) where services are not fully developed or vary in character and quality. These factors are reinforced by the strength of a particular research discipline and paradigm (see the introductory paper, Moss et al., 2003). The Reggio Emilia programme does not carry out outcome research but evaluates the work in a model based on participation of children, parents and staff in a continuous process of documentation. We are therefore looking at outcomes from a very particular context and not cross-nationally.
- 6.3 Furthermore, the agenda is not static. Even in the US, which is the most influential source of research on early childhood services, the major focus of research has moved. It has shifted from a consideration of the impact of early care and education programmes on developmental outcomes to considering the impact

of the quality of ECEC provision on children's development and about the relationship between family environments and early childhood settings (OECD US Country Note, 2000). The longitudinal National Institute of Child Health and Human Development (NICHD) Study of Early Child Care (see Table 3) is but one example of the way in which the research focus has changed. The OECD credits the focus on individual quality indicators (e.g. staff education and training, staff:child ratios, group size) with influencing national, state and local standards (see the briefing paper on quality, Mooney et al., 2003).

Limitations of research

- 6.4 There are a number of caveats in considering research linking ECEC and outcomes. These include:
- the importance of other factors in addition to ECEC which affect child development e.g. maternal educational attainment;
 - the changing nature and level of support for services, policy interventions and individuals, which can make evaluation difficult;
 - the outcomes that can be measured may not be the most important;
 - methodological weaknesses in some studies, including descriptions of programme components and lack of comparable control groups;
 - differences in values that affect research agendas.
- For a full discussion of these issues see Mooney and Munton, 1997.

Design of research studies

- 6.5 The level of confidence to be attached to research findings depends substantially on the design

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Table 1: Aspects of the curricula across the study countries

Name of Study	Country	Date	Sample size	Characteristics of study
Perry Pre-school (High/Scope) Project	US	1962-1990s	123	Robust experimental design. Targeted children from disadvantaged families to see whether high quality active learning pre-school projects could provide both short and long-term benefits to children living in poverty. Children were randomly assigned to an experimental pre-school group or a control group with no pre-school experience and were tested on entry to school and in subsequent years. The programme has been subjected to careful evaluation for almost 30 years. (Schweinart et al., 1993)
Carolina Abecedarian Study	US	1978-1999	111	Children from disadvantaged mainly African-American families, of whom 57 were enrolled for five years in an early education programme, with good adult:child ratios, ongoing professional development and salaries for staff based on the public school pay scale. The other 54 children were the control group who received no pre-school service. (Burchinal et al., 1989)
Stockholm Study	Sweden	1980-1992	128	Children 3 years old when study began to look at effects of different childcare histories on children's development. At ages 8 and 13, teachers assessed children on cognitive and social competencies (Andersson, 1989; 1992)
Göteborg Childcare Study	Sweden	1989-1997	145	Children were followed from 16 months of age, before they entered day care, until the age of eight. The study was designed to take into account pre-enrolment differences between families. It was set up to assess the effects of childcare on children's development and data on the quality of the day care setting was collected (Hwang and Broberg, 1992).
The National Institute for Child Health and Human Development (NICHD) Study of Early Childcare	US	1989-	1300	Examines how variations in early childhood experiences among infants and toddlers from different family backgrounds influenced their development. Longitudinal prospective study: infants followed from birth to seven years in ten research sites across the US. It considers not just the effect of childcare but also the interdependent variables of childcare environments, home environments and child characteristics (NICHD Early Childcare Research Network 1994 ; 2000).
Competent Children's Project	New Zealand	1992-1999	307	A retrospective longitudinal study designed to consider the effects of early childhood provision on children's competencies, including literacy, mathematics and problem solving to age 12. Academic and social data were first collected when the children involved were five years old (Wylie et al., 1996; Wylie, 2001).
Cost, Quality and Child Outcomes Study	US	1993-2000	826	398 centres (evenly distributed between profit and non-profit) in four states varying in licensing requirements. Data on quality collected on 2 classrooms randomly chosen from each centre. Children were followed for four years starting near the end of their next-to-last pre-school year. (Peisner-Feinberg et al., 2000; 2001)
Effective Provision of Pre-School Education (EPPE) Project	England	1997-2003	3000	A prospective longitudinal cohort study of children drawn from randomly selected pre-school settings in England. The study analyses the impact on developmental progress (of children from different social and cultural backgrounds who have differing pre-school experiences) of duration and quality of early childhood education and care, family background, ethnicity and social and economic background. It uses a value-added, school effectiveness design to establish the effects on the developmental progress of children across England (Sylva et al., 1999a; 1999b).



of the research study. Munton and Mooney (1999) propose a hierarchy of evidence with research design based on controlled trials, randomised if possible, as the most robust model, followed by controlled cohort studies. Prospective longitudinal studies where children are selected to take part before they start in early childhood services and regularly followed up are the 'gold standard' of these. Such designs can be used to study the effectiveness of particular types of pre-school provision, as in the case of the Effective Provision of Pre-School Education (EPPE) project and the National Institute of Child Health and Human Development (NICHD) Study of Early Child Care (see Table 3). However, they are also the most expensive.

6.6 Some researchers have noted the difficulties associated with randomised experiments, *'These complicated, messy, evolving interventions do not yield themselves to randomised experiments that produce definitive conclusions about causation'* (Merseeth et al., 1999: 18). It should be noted however, that systematic quantitative research on the effects on children's developmental outcomes is still possible. Such studies are usually quasi-experimental and longitudinal in design with thorough statistical controls for covariates. Although it is important to be aware of the limitations when considering research in this area, it would be foolish to ignore the findings of a large body of research and evaluation carried out over many

years. While the findings of individual studies may need to be treated with caution, the cumulative messages from many such studies are important and essential for adequate guidance on policy.

Measuring outcomes: assessment

6.7 The education system itself and assessment frameworks provide mechanisms other than research for measuring outcomes, although only the UK has a specialist organisation for development and monitoring—the Qualifications and Curriculum Authority (QCA). Assessments may be conducted at three levels (Bertram and Pascal, 2001):

- First, at the aggregate or national level e.g. in the UK (England) the Foundation Stage Profile (formerly Baseline Assessment) and later testing at the end of Key Stages.
- Second, at the programme level, often as part of evaluation. This is done in the Netherlands with pilot programmes (see Table 1) prior to rolling them out.
- Third, at the child level—such as in the identification of special needs. Few countries have a national system of assessment (UK (England and Scotland), the Netherlands and one third of US states). In England the Baseline Assessment, which was used both as an evaluative baseline measure for subsequent school performance and for providing information for teachers to plan accordingly, has changed to the Foundation Stage Profile. This change reflects the introduction of the Foundation Stage and the recognition that assessment

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information is built up in a range of contexts and over time. *'In Sweden and France the use of credits or formal assessments of pre-school children are positively discouraged as being premature and potentially harmful. ... France, Germany and Spain did have some form of final assessment on transfer to compulsory schooling. This took the form of a developmental checklist (including a medical examination in Germany) and was largely for assessing children with special needs who might need specialist support or to stay back in early years'* (Bertram and Pascal, 2001: 29).

- 6.8 Holding children who do not make the grade in school back for a year, based on individual assessment, is routine in some European countries and the US where the level of grade retention is used as a measure of outcome. Assessment of this kind is limited and does not provide a basis for cross-national comparisons.
- 6.9 Specific assessment measures are used for outcomes in research studies. It also has to be kept in mind that the purpose for measuring outcomes is different across studies. For example, some are looking at the effects of early intervention on disadvantaged children, whilst others are concerned with the effect of non-parental childcare or different types of pre-school experience. For details of the main studies under review, see Table 3.

Findings

Pre-school experience can have a positive effect on developmental outcomes even though it is not quite as powerful as family influences

- 6.10 All the studies show this. Phase 1 of the NICHD study reported that the characteristics of the child and family explained more of the differences in outcomes than childcare experience (NICHD Early Child Care Research Network, 1996). The estimated effect sizes for childcare factors were roughly half those for family factors. The home learning environment was a stronger predictor than social and economic background for young children's cognitive attainment on entry to pre-school (3+) and primary school (rising 5) in the EPPE study (Melhuish et al., 2001; Sammons et al., 2002). In addition, children without pre-school experience, who tended to come from more disadvantaged families, showed poorer cognitive development at school entry compared with children who attended any form of pre-school experience, after controlling for child and family factors (Sammons et al., 2002).

Potential benefits are greatest for children from disadvantaged backgrounds

- 6.11 Many studies have shown that the potential benefits of ECEC services are greatest for children from disadvantaged backgrounds (e.g. Campbell & Ramey, 1994 (the Abecedarian Project); Schweinhart and Weikart, 1980; Schweinhart et al., 1993 (the Perry Pre-school (High/Scope) Project); Sylva et al., 2001 (EPPE project)). Pre-school



education appears to be effective through increasing a child's receptivity for learning—particularly important for children with few resources at home (Oliver and Smith, 2000). Preliminary results from the EPPE study show that: *'Pre-school education while by no means eliminating the powerful impact of inequalities, may play some role in helping to reduce their impact and can thus be an important policy tool in combating social exclusion'* (Sylva et al., 2001).

Positive effects of pre-school programmes are not limited to disadvantaged children

6.12 French research shows that the école maternelle has value in achieving readiness for primary school and reducing primary school problems and later school failure (cited in Kamerman and Kahn, 1994). In Sweden, the Göteborg study found that the most important factors affecting children's development were quality of non-parental childcare, particularly predictive at age 8, and the quality of care in the child's home (Hwang and Broberg, 1992). In the New Zealand Competent Children Study, which included children from a range of socio-economic backgrounds, the competencies showing most association with early childhood education at age ten were literacy, mathematics and social skills with peers (Wyllie, 2001). The NICHD study reported that all children benefited from centre-based care regardless of their family background (NICHD Early Child Care Research Network, 2000). In England, the EPPE project found that, after allowing for home

background differences, children with pre-school experience started school with an advantage over those without, thus providing evidence that pre-school experience benefits children from all social groups (Sammons et al., 2002).

Children with more pre-school experience benefit most

6.13 There is evidence to suggest that cumulative experience in high-quality ECEC provision may influence developmental outcomes. The Stockholm study found that children entering day care before the age of one did better in all school subjects and showed better social skills and adjustment to school than children who entered day care at a later age (Andersson, 1992). Children who had spent more months in centre-based care before 40 months had higher scores on cognitive tests at age 8 compared with other children in the Göteborg study (Broberg et al., 1997). The Competent Children Study in New Zealand found that the longer children had in an early childhood service the better their motor and early mathematical skills (Wyllie et al., 1996). Preliminary evidence from EPPE found that the number of months a child attended pre-school was significantly related to developmental outcomes while whether attendance was part-time or full-time was not (Sylva et al., 2001).

Quality of provision is linked to children's competencies; the effects are usually small but significant

6.14 Access to high quality early childhood services can make a major difference to children's development

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and well being. According to a recent review: *'the positive relationship between childcare quality and virtually every facet of children's development that has been studied is one of the most consistent findings in developmental science. ... The conclusions derive from experimental research of high quality interventions for children at risk as well as from the weaker correlational designs that assess a broader range of quality and a broader distribution of children'* (Shonkoff and Phillips, 2000: 313).

- 6.15 Research has identified several key features of ECEC that determine quality including adult:child ratios and group size (see briefing paper on quality, Mooney et al., 2003); the education, training and working conditions of staff (see briefing paper on the workforce, Cameron et al., 2003); and stability and continuity of care. The NICHD Early Childcare Research Network (2000) conclude from their results *'that ratios and teacher qualifications provide the context in which quality is likely to occur'*. These features of quality do not operate independently, but combine to create effective early childhood services. This combination of quality features enables a good quality service to offer responsive and sensitive care.
- 6.16 Children with responsive and sensitive caregivers who talked more to them did better than others on assessments of cognitive and language development (NICHD Early Childcare Research Network, 2000). This finding has been replicated in the UK (Melhuish et al., 1987) and other countries not included in this study (see Lamb, 1998 and Mooney and Munton, 1997 for recent reviews of this literature). The Cost Quality and Child Outcomes Study finds that classroom practices are associated with cognitive outcomes; and teacher-child relationships with social and behavioural skills (Cost, Quality and Child Outcomes Study, 2001). The EPPE project finds that the quality domains that were most effective in terms of child outcomes were curriculum, social and pedagogical interaction and provision for diversity (Sammons et al., 2002 and Siraj-Blatchford et al., 2002).
- 6.17 Several studies find that ECEC quality is related to: better social competence and co-operation and fewer behavioural problems (e.g. Vandell, 1999); greater competency in communication, social skills and perseverance (e.g. Wylie, 2001); children's cognitive progress over the pre-school period and better progress for boys on some cognitive outcomes (Sammons et al., 2002). Consistency and stability of care are associated with children's sense of security and attachment (e.g. Peisner-Feinberg et al., 2000 and the briefing paper on the workforce, Cameron et al., 2003) and fewer behavioural problems (Vandell, 1999).
- 6.18 The results linking quality with positive developmental outcomes are often, but not always, stronger for children from lower-income families and those whose mothers have lower levels of education (e.g. Peisner-Feinberg et al., 2001). Findings from the EPPE study suggest that quality ECEC provision has a particular



benefit in raising the attainment of the most vulnerable groups such as those identified as 'at risk' of special educational needs or cognitive development at entry to pre-school (Sammons, et al., 2002).

Factors affecting positive outcomes

The influence of parents and the community

- 6.19 Most of the research on developmental outcomes and childcare involves families who have already made a decision about using non-parental childcare. They tend to be a self-selected group of parents who are often employed. *'Families who use non-parental care may be different in some way to those who do not. Consequently where differences between children who do or do not experience non-parental care have been found, they could, at least in part be due to some other influence'* (Mooney and Munton, 1997).
- 6.20 Parents' satisfaction with their working status and with services also influences children's well-being. The NICHD study found that when maternal attitudes towards employment are consistent with mother's actual employment status, children benefit. When attitudes and employment are inconsistent, the opposite is true (NICHD Early Child Care Research Network, 1998). In France, families were most satisfied with day care centres and least satisfied with informal family day care though there is no information provided as to why. They were equally satisfied with government-regulated family day care and day care by relatives (Baudelot, 1998 cited in Kamerman 2000). In Italy, a survey of parents found that early childhood services are valued not only because they meet the needs of two working parents, but because they help children to relate to other children and prepare them for pre-school and school (Musatti, 1992 cited in Kamerman, 2000). In Sweden, early childhood services are the most popular of all public services (see the introductory paper, Moss et al., 2003).
- 6.21 The EPPE project considered the role of family background including the home learning environment. The project found that at age 3-4 years the effect of the home learning environment on cognitive and social development was stronger than either social class or parental education and that what parents do is more important than their socio-economic status (Melhuish et al., 2001). Oliver and Smith (2000) confirm that some of the most effective pre-school interventions involve parents in their child's cognitive development. Of relevance to services targeted on disadvantage, Oliver and Smith (2000) state: *'Community support or participation appears to be part of many successful interventions, perhaps by reducing any stigma and enhancing self-esteem'*.
- 6.22 Parental and community involvement in early childhood services is high in the Nordic countries (see the briefing paper on quality (Mooney at al., 2003) for more about parental engagement). Recent results from the research on effective pedagogy linked to the EPPE study show that

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centres which involved parents in discussing and agreeing educational aims, supported parents in developing these at home and provided weekly or monthly feedback on their child's progress resulted in better outcomes for children (Siraj-Blatchford et al., 2002).

Quality

6.23 As discussed above, the quality of early childhood services is an important factor associated with child outcomes. Good-quality early childhood provision combined with support for parents in engaging with their children is likely to be more successful than either in isolation. Providing children with high quality ECEC provision over the pre-school years and which involves support for parents has clear resource implications.

7. Is there evidence of different outcomes or different impacts for different types of provision?

7.1 Although the full results of the UK (England) EPPE study will not be available until after 2003, preliminary findings show that: *'there were significant differences related to the particular pre-school centre attended for children's progress in literacy, language, early number concepts and non-verbal skills. The pre-school effect was largest for literacy outcomes. More and less effective centres were identified in each type of provision in the study'* (Sylva et al. 2001).

7.2 This may indicate that effectiveness has more to do with features of the provision, such as quality, rather than

service category (e.g. pre-school playgroups or day nurseries). Where all children go to the same type of service within a country so that there is no control group to use as a benchmark and where other variables such as staff training are constant there is much less variation and therefore no scope for an EPPE type study. This applies to services covering the whole age range in the Nordic countries, and the 3–6 age group in European countries where all services are either publicly delivered or receive substantial public funding.

7.3 Within the English-language countries under review, much of the research on outcomes focuses on centre-based care. However, the day care project in the UK (England) included family day care (childminders) and informal care by relatives (Melhuish, 1991) as does the NICHD study. The Swedish studies also included both centre-based care and family day care. Generally, it is the quality of the ECEC provision, whether centre-based or home-based, which is the key to better child outcomes, not the type of care that children attend. However, results from the NICHD study and the Göteborg study suggest that more time spent in high-quality centre-based care may be particularly beneficial for cognitive development (NICHD Early Child Care Research Network, 2000; Broberg et al., 1997). One speculative reason for this finding is that staff in centres, who are more likely to have specialised training in early development and more education generally than providers in other childcare settings, may talk more and



respond to children in a way that fosters early language and cognitive skills (NICHD Early Child Care Research Network, 1996). The amount of language stimulation that childcare providers provide for children is one of the features that distinguishes higher-quality from lower-quality care (Melhuish et al., 1990; NICHD Early Child Care Research Network, 2000)

7.4 In looking at ECEC provision, some researchers have considered such factors as the programme and curriculum to explain differences in child outcomes. The High/Scope (Perry) Pre-school Curriculum Comparison Study, which began in 1967, compared the effectiveness of three different pre-school programmes on young disadvantaged children who were at risk of school failure. Children were randomly assigned to either a Direct Instruction, Nursery School or High/Scope programme. In Direct Instruction programmes, the emphasis is on developing academic skills. Adults are directive and children respond to adult-initiated activities. In a Nursery School programme, the emphasis is on developing social skills. Children can choose activities although adults tend to centre activities around units or themes. In the High/Scope model adults treat children as active learners and arrange their classrooms and activities so children can plan, do and review their own activities. Teachers play a supportive role, facilitating children's intellectual, social and physical experiences. Results showed that in the programmes with a child-

centred curriculum and pedagogical approach as in High/Scope, children tended to do better. This is confirmed by a study from Portugal where children attending High/Scope programmes did better than those in programmes with two other more formal types of curriculum (Sylva and Nubuco, 1996).

7.5 The latest results from the New Zealand Competent Children Study show that particular aspects of early education continue to be associated with children's scores in literacy, mathematics and social skills with peers at age ten. These aspects relate to: *'learning environments in which the teachers are focusing on the interests of individual children, providing a flexible structure, which is hidden, through matching interest and activity, accompanying interests and activities with language which engages children's minds, and gets them using language to think things through as well as to show recognition [rather than highly structured didactic teaching]'* (Wylie, 2001: 11).

7.6 Other countries evaluate pilot programmes in advance of rolling them out. For example, the Dutch have made evaluations of Piramide – based on the US programme Success for All and Kaleidoscope – a High/Scope type curriculum. They have also evaluated the developmental, social and educational outcomes of young ethnic minority children and the employment of ethnic minority parents (especially mothers) in projects specifically set up for them (see para. 2.9).

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- 7.7 In line with the fact that out-of-school care has generally had less policy attention than early childhood services there are also fewer studies about outcomes. In France, an evaluation of the policy of reorganising the school week to include out-of-school type activities within the main school found: *'positive outcomes for the children in terms of improved behaviour, greater tolerance in their dealings with others, an improvement in the general climate of the school, less violence and greater participation and concentration in class'* (Moss et al., 1999: 15).
- 8. Is there any international evidence, from longitudinal studies, that examines the extent to which pre-school adds value?**
-
- 8.1 Longitudinal studies, besides examining the benefits of early childhood services in terms of readiness for school in the short-term, are valuable because some effects of pre-school experience may only become apparent in the long-term. Andersson's Swedish study and the Perry Pre-school Project in the US provide evidence of long-term benefits. In the Perry project, initial gains in IQ among the pre-school group were not sustained, but at ages 15 and 19 the pre-school group scored significantly higher than the control group on measures of behaviour, academic success and employability (Berrueta-Clement et al., 1984). The improvement continued to age 27 (Schweinhart et al., 1993).
- 8.2 In the Göteborg study (Broberg et al., 1997), although type and quality of early childcare experience had no influence on verbal and cognitive abilities at 40 months of age, they were predictively important at age 8. At age 13, children who had entered publicly funded day care before the age of one performed better in all school subjects and were rated as more creative and socially confident, more popular, more open and with better verbal facility than other children in the Stockholm study (Andersson, 1992). However, it has to be said that Swedish early years services have changed considerably since this study was undertaken. With the introduction of 14 months of maternity leave, the youngest children are no longer in childcare.
- 8.3 A recent systematic review of eight US studies, selected for their methodological rigour, reported that good childcare promoted children's development and achievement orientation with reduced grade retention and placing in special education as a result (Zoritch et al., 1998). Long-term follow-up showed increased employment, lower teenage pregnancy rates, higher socio-economic status and decreased criminal behaviour. There were also positive effects on mothers' education, employment and interaction with children.
- 8.4 Vandell and Wolfe (2000) reviewed evidence concerning the impact of childhood intervention projects including the Carolina Abecedarian Project, the Perry Pre-school Project and the Study of Chicago Child-



Parent Centres. The authors stress that a key factor in these studies is that quality is assessed over time rather than relying on a single assessment. Follow-up reports of these projects when participants were in their 20s suggest that children that participated in these programmes were more likely to:

- Be older than the controls at the time their first child was born;
- Earn almost twice the amount of control group members;
- Not receive public assistance;
- Have completed high school;
- Have lower rates of juvenile criminal activity.

8.5 However, the Swedish example shows that both the context and services themselves are likely to change over a twenty-year period and not necessarily from the basis of the 'proven' effectiveness of services. The Swedish government made a policy decision to invest in parental leave rather than services for the youngest children.

9. Gaps in the evidence and conclusions

9.1 The gaps in evidence are principally in relation to child outcomes from countries other than the English-language countries. It has to be said that in those countries services are provided as a matter of policy and as a public good for children, rather than based on the benefits that such services will bring children and society in the future.

9.2 An important theme of all work on outcomes is stress on the multiplicity of factors at work, and perhaps the small difference that any single action can make. But the review of research underlines the key significance in ensuring good quality provision, including curriculum and effective pedagogy, the two topics considered in earlier sections of this paper. The underpinning for that is staff qualifications and training.

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The seminar papers

Cameron, C., Candappa, M., McQuail, S., Mooney, A., Moss, P. and Petrie, P. (2003) *Early Years and Childcare International Evidence Project: The Workforce*. London: DfES.

Candappa, M., Moss, P., Cameron, C., McQuail, S., Mooney, A. and Petrie, P. (2003) *Early Years and Childcare International Evidence Project: Funding and Sustainability*. London: DfES.

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Petrie, P., Moss, P., Cameron, C., Candappa, M., McQuail, S. and Mooney, A. (2003) *Early Years and Childcare International Evidence Project: Provision of Services*. London: DfES.

Copies of the seminar papers

Copies of the seminar papers and this summary paper are available from the DfES research website:
<http://www.dfes.gov.uk/research>.

For further information on this project please contact:
Jane.Simmonds@dfes.gsi.gov.uk or
Gail.Windrass@dfes.gsi.gov.uk



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Useful websites

Abecedarian Study:

www.fpg.unc.edu/~abc/

Care Work in Europe Project:

<http://www.ioe.ac.uk/tcru/carework.htm>

Competent Children Study:

www.nzcer.org.nz/publications/reports/competent.htm

DfES Research:

<http://www.dfes.gov.uk/research>

**Effective Provision of Pre-school Education
(EPPE) Project:**

<http://www.ioe.ac.uk/cdl/eppe>

NICHD Study of Early Child Care:

[http://www.nichd.nih.gov/publications/pubs/early_early_child_care.htm](http://www.nichd.nih.gov/publications/pubs/early_child_care.htm)

**Organisation for Economic Cooperation and
Development (OECD) Country Notes and Reports:**

<http://www.oecd.org/EN/documentation/0,,EN-documentation-602-nodirectora>

Perry Pre-school High/Scope Study:

www.highscope.org/research/homepage.htm

The Sure Start Unit:

<http://www.surestart.gov.uk>

Thomas Coram Research Unit:

<http://www.ioe.ac.uk/tcru>