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Early Years Education: Perspectives from a Review of the International Literature

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EARLY YEARS EDUCATION: PERSPECTIVES FROM A REVIEW OF THE INTERNATIONAL LITERATURE

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1. INTRODUCTION

The purpose of this review is to gather together, describe and comment on international evidence on the educational experiences offered to young children. It was commissioned by the Scottish Executive Education Department at a time when the existing curriculum guidance (*A Curriculum Framework for Children 3 to 5*, SCCC, 1999) was under review and a national process of educational reform for children aged 3-18 was under way.

Before they begin primary school children in Scotland and in many countries across the world participate in educational experiences designed specifically for them and there is widespread acceptance that educational provision before school is a valuable resource for children and their families. In Scotland almost all four-year olds and most three-year olds now participate in part-time government funded educational provision. In some cases early educational experiences are offered in the context of a service that is designed to care for children while their parents work. Elsewhere the impetus for the service is solely educational, although attendance there may also serve incidentally as childcare for parents. The curricula and pedagogical approaches we consider here may be offered in public, private or voluntary sector settings. However, the focus of attention is ***educational provision that is developmentally and culturally appropriate for young learners***, regardless of institutional history, funding stream or government department responsible. It is ***ways of working with and supporting children and thinking about them as learners*** that is at the core of this review.

1.1 Defining our terms

An examination of academic journals, books, practice guidelines and national or international reports on early childhood education or care quickly makes evident the array of labels, terms and definitions used to refer to the nature of provision, the children who attend and the adults who work in the settings. For example, early years educational provision might be referred to as pre-school, early years education, early childhood education or educare and offered in nurseries, playgroups, children's centres, kindergartens or day care. Those who receive the service are described as young learners, pre-school children, preschoolers or 'in the early years' while the adults involved may be called practitioners, teachers, nursery nurses or referred to more generally as staff. Any attempt at delineating the field by age or content is equally open to contest as this review will demonstrate.

For the purposes of this review:

- ***Early years education*** is used to refer to group out-of-home provision designed to support learning and development for children in the period before they begin primary school. As we are interested in different ways of organising and supporting learning we are restricting our review to early years education that is based on an explicit curriculum and therefore to provision that is typically offered to children from about three years of age.
- ***Practitioner*** is the term that we will use to refer to the adults that work directly with children in early years education settings. These practitioners may have different training routes but our concern here is with them as the adults who support learning through the resources and activities they make

available, their engagement with children and their planning for and assessment of learning and development.

- ***Curriculum*** is used in this review to describe a way of structuring learning experiences, an organised programme of activities, opportunities and interactions that is usually derived from some explicit or implicit ideological or theoretical understanding about how children learn.
- ***Pedagogy*** is closely related to curriculum and will be influenced by the ideas about learning that under-pin the curriculum. By pedagogy in this review we mean any activity that promotes learning. This encompasses (i) the direct actions that practitioners undertake to promote learning and engagement (e.g. providing activities; interactions with children that facilitate learning, such as, questioning, modelling); (ii) indirect activity (such as, planning, observing and recording).

1.2 The review process

This review is desk-based and relies on material that is currently publicly available. We searched paper, electronic publications and grey literature available in English since 1995[1]. This was a targeted search process to gather evidence relevant to the three broad questions that the review set out to address.

Review Questions

1. What kind of educational experiences are offered in early childhood and what evidence is there of their impact?
2. Is early years education a distinct phase in the education system?
3. How are decision made about when children should have particular educational experiences?

This review makes no claims to be exhaustive but rather to exemplify, raise issues and contribute to the debate through reference to the early years literature. Internationally early years provision appears to be subject to review, amendment and evolution but research into planned national changes or emerging thinking was not part of the remit for this commission. We did not prescribe in advance any particular approaches to early years education or any criteria for the selection of literature because we wanted to be able to include descriptions of what was offered and why, as well as studies that aimed to evaluate, quantify or analyse outcomes. We did draw on systematic reviews that operated in accordance with pre-defined criteria (e.g. Anderson et al, 2003) but also on accounts of events when representatives of different countries or interest groups met to share experiences and debate issues (e.g. OECD, 2004; Kamerman, 1998). We have included empirical studies reported in books, academic journals and government reports and drawn on web-sites setting out national or regional perspectives on early educational provision.

There are many surveys available that offer cross-national accounts focused on different aspects of provision, for example, Oberhuemer and Ulich's (1997) survey is particularly concerned with staffing and staff training across Europe. We have used such accounts selectively, drawing on them where they relate particularly to ways of working with children rather than comparing institutional forms or practitioner qualifications. In doing this we have attempted to use cross-national comparisons as an aid to critical thinking rather than definitive lists of alternatives.

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[1] We have included references to some earlier work where this has had a clear influence on current practice or expectations.

The references included in the text of the review are given in Appendix 1. The curricula of the four national educational systems in the UK are included in our references[2] but have not been given any priority in this review. Instead, we have treated this process as an opportunity to raise questions and learn lessons that will be useful in a critical appraisal of the Scottish curriculum guidelines and the current consensus on pedagogy. The questions set out above are considered in turn and a set of key implications or issues for debate is included after the evidence for each has been presented.

Virginia Cano assisted in the review process by conducting electronic searches, compiling the data base of material consulted and commenting on some of the articles identified.

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[2] The Northern Ireland Curricular Guidance for Pre-School Education (DENI, 1997) is not referred to directly in the text but is included in Appendix 1.

2. (RQ1) WHAT KIND OF EDUCATIONAL EXPERIENCES ARE OFFERED IN EARLY CHILDHOOD AND WHAT EVIDENCE IS THERE OF THEIR IMPACT?

In our initial planning for this review we envisaged addressing Review Question 1 by first considering particular curricular approaches, followed by an account of the aims or expectations associated with each curriculum. However, as we explored the curricula discussed below we were struck by an emerging consensus about the principles that have influenced the development of the educational provision offered to children in their early years, and of shared theoretical underpinnings and expectations. For this reason we have chosen to begin by looking at the aims and expectations held for education in the early years in general and the common influences of these perspectives. We then move on to consider the ways in which these ideas have been developed into particular curricula and pedagogies.

2.1 What aims and expectations are there for early years education?

The kinds of educational experiences offered to children reflect the expectations held by society in general and practitioners and policy makers in particular about the appropriate outcomes and goals. Attention to children's physical development arises from aims for children's physical well-being. Provision designed to develop aesthetic and expressive competencies is the result of expectations that during their early years children can and should learn to use various media to explain and structure their thinking, communicate feelings and emotions and record events. Expectations about the shape of and outcomes from educational provision in the early years appear to be derived from two distinct sources:

- ideas about children, childhood and learning;
- socio-political perspectives on the purpose and outcomes of educational provision in the early years.

Children, childhood and learning

Generalised aims such as promoting the individual's development and 'fulfilling potential' abound in writing about early years and in the declared aims of national early years education programmes. However, in their review of a number of texts on childhood and early education Mitchell and Wild (2004) argue that there is a 'compelling case' that the ways in which children, childhood and learning are thought about influence the kind of provision that a society makes for its youngest members. For example, Lin-Yan and Feng-Xiaoxia (2005) describe the 'revolution' in ideas (rather than imposed curricular reform) that has occurred over two decades in China and is now influencing practice and discourse about early education there. Bertram and Pascal (2002) point to the tension present in early years provision in Hong Kong between western developmental and constructivist models of curriculum and pedagogy and traditional thinking that sees children as passive recipients and teachers as 'transmitters'.

Looking at Korean early educational practice with its emphasis on whole-class teaching and the authority of the teacher Kwon (2003) argues that the Confucian tradition is evident, despite the more recent influence of western thinking. Kwon contrasts this with practice in England, arguing that the focus there on independence and autonomy in early learning reflects the English liberal tradition valuing individual rights.

In Europe and North America there is potential for tension between the romantic perspective on childhood (seeing it as a time of innocence that should be protected) and the view that children are competent individuals able to make sense of and benefit from exposure to the world. This tension is perhaps most acutely seen in the debate over the appropriateness of the use of information and communication technologies (and computers in particular) in the playroom (Stephen & Plowman, 2003; Alliance for Childhood, 2004). Support for imaginative play and the use of resources specially designed for use by children is widely, although not universally, shared but some societies favour learning by engaging with real-world tasks and equipment. Woodhead (1998) gives examples of societies where playfulness and inquisitiveness are considered as negative characteristics and where obedience is valued and there is little place for play or children making autonomous choices. He argues that this evidence of variation in values and expectations means that prescriptive and decontextualised ideas about early childhood development and appropriate provision are unhelpful and suggests a more 'context-sensitive' approach to provision to promote children's growth.

In the west ideas about how children learn and develop have evolved over time leaving traces in current practice and expectations. Piaget's stage theory of development (e.g. Piaget, 1952, Piaget and Inhelder, 1969, Flavell, 1963) has had a powerful influence on thinking and curriculum construction. His work has been subject to extensive modification and challenge by later work (e.g. Donaldson, 1978) and the more general critique of developmental psychology (e.g. James, Jenks and Prout, 1998). Nevertheless, the legacy of this linear, progressive construction of development through distinct stages remains in the ways in which children are grouped, the emphasis on children engaging in active exploration, and the importance attached to the environment and resources as stimulation for learning.

More recently socio-cultural theories of learning (e.g. Vygotsky, 1978; Wood, Bruner & Ross, 1976; Rogoff, 1998) have focused attention on the influence of the contexts in which children learn and the crucial role of adults and peers as mediators of learning. Brooker (2002) has drawn attention to the cultural capital and social expectations that children bring to their early education settings and the ways in which this habitus shapes their interactions with the educational opportunities they are offered.

There has been considerable attention in popular accounts and through the promotion of specific learning programmes to the lessons that neuroscience might have to offer for education and the development of young learners in particular. Blakemore and Frith (2005) conclude that despite the interest in this area and the advances in understanding of the function of the brain there is still a considerable gap between brain research and findings that can be translated into educational practice. Bowman et al (2000), reporting to the Committee on Early Childhood Pedagogy of the USA National Research Council, go further and conclude that there is 'no evidence of the effectiveness of particular educational programs, methods or techniques on brain development'.

While neuroscience may not yet be able to contribute directly to thinking about educational practice other issues and themes pervade writing about early years education and the development of practice and will be evident in the description of curricular approaches that follows (Davies, 2005; Mitchell and Wild, 2004, British Educational Research Association-Special Interest Group (BERA-SIG), 2003). Common themes include:

- a focus on individual development
- an emphasis on child-initiated not adult-directed learning
- learning is co-constructed with adults and peers
- children are active agents not passive recipients
- a view of children as competent learners rather than immature adults
- listening to and respecting children and their choices
- learning is shaped by context and community.

Another consistent theme running through thinking about young children learning is the positive value of play and the need to create the conditions for learning through play in the playroom. However, the authors of the BERA-SIG review (2003) raise a number of difficulties with play as a principle condition for learning and comment on the lack of evidence for its efficacy as a medium for learning. The role of play is under-theorised and perhaps more asserted than evidenced. Little is understood about progression in play through the early years and not all children know how to play, are able to make choices or avoid episodes of stereotypical play. Sutton-Smith (1997) argues that play is progressive and can facilitate the development of knowledge and skills but acknowledges that it is not the only determinant of learning. Bennett et al (1997) have demonstrated the need to look at play not only as an opportunity for children to learn but also for adults to teach, or at least to pro-actively contribute to children's learning.

Socio-political perspectives

Policy, social, political or economic perspectives can give rise to expectations about the outcomes of education in the early years which will in turn influence decisions about the nature of provision and the kind of experiences that children have there. For some policy makers and economists early years education is thought of in terms of enhancing human capital. It is expected to contribute to society's future economic benefits and reduce social and economic burdens through specific intervention programmes and, more generally, by preparing children for school and preventing later academic failure (Heckman & Masterov, 2004; National Audit Office, 2004). When early education is associated with childcare that allows mothers to go to work it can be seen as offering opportunities to break cycles of deprivation and reduce poverty (Cabinet Office Strategy Unit, 2002; Ball and Vincent, 2005). While the benefits of intervention targeted at disadvantage are acknowledged (e.g. Sylva, 2000), the view that education in the early years is justified on the grounds of preparation for another stage of education is firmly rejected by many practitioners, providers of educational provision and writers on early years (Moss and Petrie, 2002; Bertram and Pascal, 2002).

In some countries the formulation of the national curriculum includes goals and expectations concerned with promoting particular forms of social interaction or governance. For instance, the Swedish curriculum aims to help children understand and begin to participate in democratic government. Elsewhere the form of governance influences the way in which curriculum thinking develops and is implemented. The degree of decentralisation that exists within a country will influence the extent to which national guidance on early education is considered prescriptive or indicative. In Finland, for example, the curriculum review process aims to ensure equality of quality across the country but not homogeneous provision. Municipalities are encouraged to seek a curriculum that is meaningful in terms of local structures and culture (Välimäki and Lindberg, 2005).

More generally, the curricula developed for children in their early years are concerned with sharing and developing the society's values and morals (Dahlberg & Moss, 2005). The positive value attached to inclusive practice in the UK is evident the curriculum guidance for early years education in both England and Scotland. Elsewhere aims for early years education include support for social cohesion, national cultural identity, respect for diversity or promotion of bi- or multi-culturalism. Immersion in the French language, both as specific preparation for later educational experiences and as part of French cultural identity, is valued in the early years experience in France (David et al, 2001). In Japan national days are used to structure educational experiences and promote appreciation of the national culture. In contrast, the curriculum in New Zealand was developed across two cultures and is designed to allow culturally appropriate practice to emerge.

2.2 What pedagogical and curricular approaches are used in early years education?

In an international review of early years curricula Bertram and Pascal (2002) pointed to the contrast between the absence of curriculum guidelines for children up to three years old (and the strong resistance to such guidance in some countries) and the prevalence of national curricula for children over three but not yet in school education. All of the 20 countries included in their review had curriculum guidance for children over three. Across these mainly (but not exclusively) western developed countries there were variations in the degree to which each nation's early years curriculum was considered as guidance, a suggestion of desirable goals or prescribed practice but they did share common features.

- Most countries used areas of learning to structure the curriculum and argued for a holistic approach. No where were subjects/disciplines used in the context of early learning and only three emphasised early literacy and numeracy.
- There was general agreement on the areas of development to be addressed by the early years curriculum, that is, social and emotional; cultural, aesthetic and creative; physical; environmental; language and literacy and numeracy.
- An active play-based curriculum, with children encouraged to be independent learners was almost universal.
- In most of these countries the practitioner was seen as supporting and facilitating children's learning rather than directing or leading it.

In the 2003 BERA-SIG review of research on pedagogy, curriculum and the role of practitioners the almost ubiquitous organisation of the curriculum in the developed world in terms of topics, themes and areas of knowledge or experience (rather than subjects or disciplines) is ascribed to 'folklore and tradition'. They go on to argue that an understanding of child development is only one way to conceptualise the basis for curricula decisions and point to Frobel, Montessori, Steiner, Macmillan and Isaacs as pioneers who developed curricula from more ideological perspectives

Developmentally Appropriate Practice

Siraj-Blatchford (1999) describes *Developmentally Appropriate Practice* (DAP) as the consensus view on early childhood pedagogy in the US and suggests that this consensus extends to the UK too. Dunn and Kontos (1997) suggest that while it may represent a consensus of espoused practice it is not necessarily to be observed in everyday practice. Nevertheless, as the practice promoted by the US National Association for the Education of Young Children (NAEYC) it has had a formative influence on thinking across the USA and beyond and is frequently assumed as the default perspective in writing about practice in early or pre-school education (e.g. Miller et al, 2002; Barratt-Pugh & Rohl, 2000). Developmentally Appropriate Practice is characterised by:

- a balance between children's self-initiated learning and practitioner guidance
- opportunities for children to make meaningful choices between activities offered
- scope to explore through active involvement
- a mix of small group, whole group and independent activities
- play as a primary (but not the exclusive) medium for learning
- adults who demonstrate, question, model, suggest alternatives and prompt reflection
- systematic observation of children's learning and behaviour.

These characteristics are at the core of the curriculum guidance for early years education in Scotland, England, Wales and Northern Ireland. However, DAP is not without its challenges. Externally imposed strategies or programmes such as the National Literacy Strategy, designed to meet particular, more measurable and immediate targets, can run counter to practice based on an understanding of what is developmentally appropriate (Fisher, 2000; Hiebert, 2000).

Alternatives to Developmentally Appropriate Practice

In 2004 the Directorate for Education of OECD published a document outlining five alternative curricular approaches and reporting on the key issues raised during discussions on these curricula (OECD, 2004). Four of the curricula discussed by the OECD where selected because they were well known and had received considerable attention from managers of provision, policy makers and educational researchers. In addition, the curriculum of Sweden (the host nation for the associated seminar) was presented and it is included here as a particular adaptation of DAP. These five curricula are reviewed briefly below as examples of the ways in which common themes in thinking about early years education have been translated into specific aims and practices.

Experiential Education

The *Experiential Education* approach was developed by Laevers and associates (Laevers, 1994; Laevers & Moons, 1997) and has become an influential model for early years education in Flanders and the Netherlands. It focuses on the educational process and the experiences of children in educational settings, arguing that two key dimensions are necessary for high quality:

- emotional well-being (indicated by being at ease, having self-confidence, acting spontaneously)
- involvement (measured by the Leuven Involvement Scale, ranging from no activity through involvement at a routine level to intense involvement with purpose and pleasure).

The dimension of emotional well-being requires adults to provide children with an environment where they feel confident, mentally healthy and have their physical needs met, as well as their needs for security, affection, social recognition and moral values. Laevers argues that involvement is essential for what he calls 'deep-level' learning and is characterised by: sustained concentration (the flow state described by Csikszentmihayli, 1979); intrinsic motivation derived from satisfaction of the exploratory drive; and working in the zone of proximal development (achieving with others what you cannot yet do alone, Vygotsky, 1978). In order to involve children at the highest level practitioners must stimulate and engage children through the activities they suggest, the resources they offer, the information they give and questioning they provoke.

Three dimensions are used to summarise the pedagogical actions that this understanding of early years education demands of practitioners: stimulation, sensitivity and giving autonomy to children. Ten action points for practice that builds well-being and involvement have been derived from the experience of teachers working with the experiential curriculum and systematised by Laevers and Moons (1997). The Experiential Education model has been adopted by Pascal and Bertram as the basis for the Effective Early Learning (EEL) project used widely in England to support the evaluation and development of good quality practice (e.g. Pascal et al, 1998).

The High/Scope Curriculum – active learning through key experiences

This curriculum originated in the USA where it was developed by Weikart and colleagues over 40 years ago as part of a targeted early intervention programme that aimed to help disadvantaged children succeed at school and in society. Weikart (OECD, 2004) describes *High/Scope* as a set of guiding principles and practices that can be adapted across educational settings and age groups. The central tenet of the approach is that children learn best through active experiences and following their own interests, rather than through direct teaching. As children make choices and play in an environment arranged around specific interest areas they become 'naturally' engaged in what the curriculum developers call 'key experiences'. High/Scope has identified 58 key experiences for child development in the early years arranged in five groups:

- creative representation
- language and literacy
- initiative and social relations
- movement and music
- logical reasoning.

Implementing a High/Scope curriculum requires a particular pedagogy designed to promote engagement with these key experiences and give children the opportunity to play independently with the activity or resource they have chosen. Materials are arranged for independent use and there is a consistent routine in the playroom. Each child plans his or her activities for the day, has time to engage in the activity and is then helped by adults and peers to reflect on that activity. Practitioners are trained in strategies to promote positive interactions with children and engage in authentic dialogue as they prompt children to reflect.

A number of studies have demonstrated positive outcomes for children who experience High/Scope as opposed to more formal curricula (e.g. Sylva and Nabuco, 1996) but the most well know and widely reported of such studies is the follow-up work by Schweinhart and Weikart (1996, 1997). Their evidence suggests that, when compared at age 27 to children from similar backgrounds, those who had been randomly allocated to the intervention programme of which High/Scope was a major part had higher earnings, less criminal behaviour, completed more years of education and were more likely to own their home. Heckman and Masterov (2004) suggest that this US evidence demonstrates the potential for success (in economic terms) of specific early intervention programmes.

The Reggio Emilia Approach

This curriculum approach originated in northern Italy but has received world-wide attention. It sets out to offer children the opportunity to build thinking relationships between people, ideas and the environment, drawing on expressive, communicative and cognitive languages. The focus is on each child constructing his/her own understanding through reciprocal interactions with others and resources, particularly creative resources. Developing learning competencies is at the heart of the approach and the aim is that through dialogue and communication (spoken language, drawing, constructing models, drama, music etc.) children will develop their capacity to think, build and test theories. Content knowledge is secondary to learning about how to learn, although specific contexts and bodies of knowledge may be the focus of the children's investigations.

The *Reggio approach* has developed a distinct pedagogy that places the emphasis on using multiple forms of expression to help children articulate their understanding and thinking, sustain their interest and research and give value to these activities as they are shared with others, particularly parents. Practitioners see themselves as guides who are learning with the children and adopt a listening role that seeks to encourage thinking, negotiation and the exploration of difference, particularly in collaborative group work. Documenting the process of exploration as children work through a project is a key pedagogical activity which offers children a record of their process and progress through the project, gives educators a detailed insight into children's activities and learning and makes the process visible to parents and the community.

Working in the US Katz and Chard (Katz & Chard, 2000; Chard, 1998) have also developed a project approach which they argue shares with the Reggio approach the benefits of integrating varied kinds of knowledge, being intrinsically motivating and allowing the child to become an expert. However, they argue for project work only as part of a wider educational programme.

Te Whariki

Te Whariki was developed by May and Carr along with a broadly representative development team (including the main Maori early childhood organisation) to become the first national early childhood curriculum in New Zealand (New Zealand Ministry of Education, 1996). This curriculum adopts a specifically sociocultural perspective on learning that recognises the different social contexts in which children in New Zealand live and the social and interactive nature of learning. It seeks to promote bi-culturalism and nurture learning dispositions, working from the Maori principle of ‘empowering children to grow’. There are five strands to the curriculum:

- wellbeing
- belonging
- contribution
- communication
- exploration.

Within each strand developmental, cultural and learning goals have been articulated. For instance, in the contribution strand one of the goals is that children should have opportunities to learn with and alongside others, while in the communication strand experiencing cultures’ stories and symbols is a goal. Te Whariki tasks practitioners with supporting children to achieve these goals through the environment and activities they provide and in ways that are culturally appropriate. Play is not given the same priority as in some other early years curricula but having opportunities for spontaneous play and play that supports meaningful learning is included as a curricular goal. For Carr and May (2000), the aim was the ‘development of more complex and useful understanding, knowledge and skill attached to cultural and purposeful contexts’. The curriculum assumes that children will be in mixed age groups while recognising the differing needs and capacities of infants, toddlers and children from 2 years 6 months to five years old.

Te Whariki was widely welcomed by those concerned with early childhood in New Zealand and by the government and was adopted in its final form in 1996. The holistic nature of the goals of Te Whariki has raised difficult assessment challenges. Carr’s (2001) learning story approach to the evaluation of children’s experiences in early childhood centres offers an alternative to traditional assessment through a process which prompts practitioners to describe what children are doing, document it, discuss the evidence and make decisions about supporting each child’s learning.

The Swedish Curriculum

Adopted in 1998 the first *Swedish National Curriculum* (Swedish Ministry of Education and Science, 1998) sets goals for early education but aims to maintain the play-based, kindergarten tradition. It avoids detailed curricular guidance in favour of local interpretations and decision making about how to achieve the goals set. Nevertheless, settings are responsible for supporting all aspects of child development (along with fostering values) where they may have previously given priority to particular areas. An understanding of children's learning as driven by play and meaning making has led to a focus on nurturing the child's search for knowledge through play, social interaction with adults and peers and exploration and creativity, as well as observation, discussion and reflection. Dialogue between adult and child and conscious, independent, purposeful action is at the core of the Swedish curriculum with practitioners expected to make local decisions about how to create the conditions that make this kind of engagement possible.

There are five groups of goals about:

- norms and values, including the promotion of democracy (as both a content to acquire and a process for decision making in the setting) and developing care and respect, justice and equity
- development and learning, covering dispositional goals (such as problem solving, responsibility, critical thinking), emotional goals (such as the development of identity and feelings of security) and content orientated goals (relating to culture, science, reading, writing and mathematics)
- influence of the child, through developing the ability to express thoughts and feelings and understand and act by democratic principles in co-operative activity and decision-making
- pre-school and home relationships
- co-operation between pre-school class, school and leisure-time centre.

Despite their differing conceptual and cultural origins the five curricula outlined here share some *common features*. They have a *holistic view* of learning and the learner, stress *active or experiential learning,* respect children's ability to be *self-motivating and directing* and value *responsive interactions* between children and adults as crucial for learning.

2.3 What evidence is there of the appropriateness of an approach or its impact on attainment?

With the exception of the work discussed above that examined the outcomes for individuals who had participated in the High/Scope Curriculum and the Effective Provision of Pre-school Education (EPPE) study reported below there is little convincing evidence that examines the impact of experiencing a particular curriculum or pedagogical approach. The BERA-SIG (2003) review points to the paucity of evidence on the impact of alternative forms of curricula, including those of the early pioneers of specific provision for young children, and conclude that what emerges from a review of research on curriculum in the early years is 'how little hard evidence we have to guide policy and practice'. The reviewers conclude that the debate about the benefits of varying curricular approaches for under-fives is 'stronger on assertion than evidence' and fails to distinguish attendance at a particular type of provision from the impact of the educational provision experienced there.

Furthermore, what research evidence does exist about the impact of curricular experiences tends to be limited to outcomes for children in particular circumstances or for literacy and numeracy, with little evidence at all relating to other areas of knowledge and development in domains such as technology, arts, religion and morality. Added to the paucity of studies are the difficulties of assessing the holistic and dispositional goals that characterise much of early education. Assessment techniques like the Learning Stories approach (developed by Margaret Carr in response to the challenges of the new curriculum in New Zealand) are discursive and aim to capture the learning of individuals but are not amenable to quantification or cross-learner comparisons. The profiles of individual children built from careful observation by practitioners in Scotland give rich insights into what a child can do and how he/she goes about things but are difficult to generalise from and typically focus on an achievement noted rather than the activities and pedagogy that led to that learning.

Evaluating intervention programmes

The Schweinhart and Weikart (1997) study mentioned previously is quantitative and draws on a 'hard science' design that randomly allocated children to the 'treatment' group or a control group that did not receive the intervention programme. Even here there is a need for caution in any attempt to generalise from this work. The High/Scope curriculum was only one part of an intensive intervention programme that also involved weekly home visits, adult:child ratios of 1:6 and practitioners who all had masters level qualifications. Nevertheless, the Parliamentary Office of Science and Technology (POST) Report (2000) concluded that the studies evaluating the Head Start programme (compensatory provision for children from deprived backgrounds in the USA) and High/Scope offer a powerful justification for high quality pre-school education. The report pointed to the randomised trial design employed by many of these studies, the breadth of outcome measures examined and the longitudinal nature of the evidence as reasons for confidence about the outcomes of compensatory programmes for disadvantaged children.

Further evidence of the positive benefits of model intervention projects comes from a study following up 104 participants from the Abercedarian Project until age 21 (Campbell, 2001). In this case the evidence suggests the children exposed to the project's high quality education and childcare attained high scores on tests of cognitive and academic ability. Barnett (1998) suggested that while immediate growth in IQ scores may not be sustained these short-term improvements in cognitive functioning gave longer term benefits in terms of confidence and self-esteem that allowed the learner to continue to make educational progress.

Writing from an economic perspective Currie (2001) confirmed the value of compensatory programmes. She concluded that:

- The evidence suggests that *model,* intensive educational interventions make a positive difference in children's lives, although the findings are not universally positive and nonrandomised designs often find different effects.
- Evidence on the impact of large-scale, publicly funded intervention programmes is less clear about the benefits than the evidence from model programmes.

- There is evidence that higher quality provision is associated with more encouraging cognitive and social outcomes and that these effects are greatest for children whose mothers had the least education, were at risk of abuse or neglect or had limited proficiency in the mainstream language.

However, she points out that it is more difficult to carry out well-designed studies of the long-term effects of large-scale programmes and conduct randomised trials on the general population.

The relative absence of quasi-experimental studies and the lack of use of control groups and randomised allocation to provision types are highlighted in a review of the effectiveness of early childhood development programmes in the USA published in the American Journal of Preventative Medicine (Anderson et al, 2003). However, Anderson et al felt able to conclude that publicly-funded, centre-based early childhood programmes could promote children's well-being and that there was clear evidence of cognitive benefit in terms of grade retention and preventing developmental delay that requires special educational provision. But they found less evidence available from which to draw conclusions on social outcomes.

More ambiguous evidence about the impact of early education programmes has recently been published. In the initial National Institute of Child Health and Development (NICHD, 2002) study of the effects of child care from birth to 4 years 6 months (just before entry to school in USA) distinct benefits and risks were found to be associated with the quality, quantity and type of early care and education children had experienced. Higher quality provision predicted better pre-academic skills and language, attending an out-of-home setting was related to improved language and memory performance but the quantity of time from birth in non-maternal early care and education was associated with behavioural problems.[3] A longitudinal follow-up of this study found that these advantages and disadvantages lasted through out the primary grades (NICHD, 2005). Merrell and Tymms (2005) have presented evidence (from children attending provision available to the general population rather than model programmes) that suggests that the gap between children in affluent and deprived neighbourhood in England on measures of mathematics and language is not reduced by early years education. However, they stress that their evidence relates to changes in the relative positions of children from different neighbourhoods and point out that their evidence (and that of others) demonstrates that individual children do make developmental gains while attending early years settings.

The influence of quality on the outcome of early years education

As the large scale NICHD study and numerous other investigations suggest the impact of early education does depend on the quality of the provision and learning opportunities offered to children. For example, Peisner-Feinberg and Burchinal (1997) examined the relationship between attendance at child care centres of varying quality and the cognitive and socioemotional development of children from diverse family backgrounds. They concluded that their findings added to the literature suggesting that child-care quality (in terms of playroom environment factors such as, care routines, opportunities for learning and teacher responsiveness) is related to pre-school children's cognitive and socioemotional outcomes. In addition, they found that that while better quality care had an, albeit modest, positive influence on cognitive and socioemotional outcomes for all children their data suggested that in some cases higher quality care had a stronger positive influence on children from less advantaged backgrounds.

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[3] It should be noted that quality ratings of provision in the USA (where regulation differs between states) are much more varied than quality ratings of settings in the UK and the NICHD have concluded that much provision in the USA is not of high quality (NICHD, 2000).

McCartney et al (1997) found inconsistent evidence in a study focused on social development. They argue that, while small effect sizes are typical in child-care research, their results may be reflecting the differential impact of quality of care on children from varying family backgrounds. In their study children from more advantaged backgrounds attended centres with higher ratings on factors associated with quality e.g. low staff turnover and higher staff wages. Teacher background and adult:child ratios have also been investigated as key features of provision quality. Howes (1997) concluded that both of these features made a difference to teacher behaviour and children's developmental progress but that teacher background (considering the level of education and the degree of specialised training) was the stronger effect. However, she went on to point out that there was no evidence that teachers with more advanced educational and training backgrounds could be as effective with less stringent adult:child ratios.

The *Effective Provision of Pre-School Education (EPPE)* project (Sylva et al, 2004; Sammons et al, 2004) is a large-scale, longitudinal study that used multilevel analysis. This sophisticated statistical technique allows for the influence of particular variables, experiences or influences to be isolated without recourse to randomised/control group designs. It offers the best evidence to date of the effect of pre-school education in England and Wales. Among the extensive findings EPPE concluded that:

- Attending pre-school improves children's intellectual and social/behavioural development. Children who did not attend had poorer cognitive attainment, sociability and concentration when they began primary school. This finding of advantage associated with pre-school education is similar to some of the results of the NICHD study discussed above (NICHD, 2002) and replicates an earlier study using Baseline Assessment data in England (SCAA, 1996).
- Full-time attendance did not lead to better outcomes for children than part-time provision.
- Disadvantaged children benefited significantly from good quality pre-school experiences. While it does not remove the effects of social disadvantage pre-school education can reduce the impact and provide children with a better start to school.
- The beneficial effects of pre-school remained evident through the initial years of primary school (ages six to seven) although some effects became weaker over that time. Pre-school quality was significantly related to children's attainment on tests of reading and mathematics at age six, a relationship that was weaker but still evident at age seven.

In the context of this review the EPPE project findings about the influence of the ways in which practitioners worked with children are particularly pertinent. Although subject to the same or similar regulatory regimes and curriculum guidance pre-school educational settings varied in the value that they added to children's developmental trajectories. There was a significant relationship between higher quality provision and practice[4] and better intellectual and social/behavioural outcomes.

- Where practitioners were warm and responsive to children's individual needs the young learners' progress was enhanced.
- Practitioners with higher qualifications worked in settings that had higher quality ratings. Children's progress was greater in settings where staff had higher qualifications.
- In settings that received higher ratings on measures of provision and practice for literacy, maths, science/environment and catering for diversity children's outcomes were better on reading and maths at age six.

A more detailed examination of the kind of pedagogy, practice and curriculum that enhances intellectual and social/behavioural development was carried out in the *Researching Effective Pedagogy in the Early Years (REPEY)* project (Siraj-Blatchford, 2002). From their case studies of more effective settings identified by EPPE the REPEY team concluded that:

- Settings that saw cognitive and social development as complimentary achieved the best outcomes.
- A higher incidence of interactions where adults and children engaged in sustained shared thinking distinguished the more effective settings.
- To support learning effective practitioners need a good understanding of the content of curriculum areas.
- The most effective practitioners encourage children to engage with cognitive challenge and have a repertoire of pedagogical activity (including direct instruction) that they draw on as appropriate.
- Effective settings use formative assessment and differentiate the curriculum, matching activity and the level of challenge to children's needs.
- An equal balance between child initiated and adult initiate activities occurs in the most effective settings.
- Clear behaviour and discipline policies, supported by facilitating children to talk through conflicts, benefited social skills.
- Findings from the EPPE and REPEY projects support the general approach taken in the Curriculum Guidance for the Foundation Stage (QCA, 2000) with its emergent approach to learning and attention to intellectual growth.

The *picture of effective practice* that emerges consists of well qualified practitioners:

- providing challenging but achievable experiences (working in what Vygotsky describes as the Zone of Proximal Development)
- modelling appropriate language and values in practice
- encouraging socio-dramatic play
- encouraging, praising, asking questions and interacting to encourage sustained, shared thinking.

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[4] Quality was defined by the Early Childhood Environmental Rating Scale (Harms, Clifford and Cryer, 1998) and extension scales (Sylva et al, 2003).

Moyles et al (2002) found that these ideas were endorsed in practitioners' thinking, although not always evident in practice. The framework for practice Moyles et al devised from their empirical work reveals underlying principles for effective pedagogy that are similar to those arrived at in the EPPE project. However, their evidence suggested that effective practice needed not only pedagogical understanding about playroom actions but an appropriate climate of provision, assessment, management, staff development and engagement. In addition, they point to the need for a shared understanding of the underlying principles, values and the professional requirements demanded of practitioners.

Bowman et al (2000) argue that it is not surprising that attempts to identify any curriculum as superior to others fail given all the evidence for the importance in learning of adult-child relationships, children's temperament, social-economic factors and cultural traditions. Indeed, they suggest that the influence of a particular practitioner may be more important in a child's experience than a specific curriculum. Additionally, a curriculum may contribute more to some dimensions of learning in the early years than to others. However, they conclude that the evidence suggests that having a planned curriculum is better than not having one and that good quality provision builds on understandings about what children can learn and the ways in which they learn. In the light of this Bowman et al suggest that any curriculum should be evaluated on the extent to which it

- builds on and engages with children's existing understanding
- facilitates the development of concepts as well as acquiring information and skills
- enhances children's metacognition and learning strategies.

Questions and Implications for Early Years Education in Scotland

- *What are our aims and expectations for early years education in Scotland?*
- *What is it about play that is important for early years education in Scotland?*
- *This review identified a number of themes common to different curricular approaches. To what extent do we value these ideas in early years education in Scotland? Does our curriculum guidance support the themes?*
- *Is there a place for targeted, 'model' early years education intervention projects in Scotland?*
- *What lessons are there from the findings of the EPPE project for Scotland? To what extent is practice in our early years settings like the model of effective provision that emerges from EPPE?*

3. (RQ3) IS EARLY YEARS EDUCATION A DISTINCT PHASE IN THE EDUCATION SYSTEM?

Even a cursory reading of international reports and reviews on the educational experiences offered to young children suggests that practitioners, policy makers and parents recognise and respond to the need for a distinct type of learning experience to be offered to children from about 3 years of age until they begin primary school. However, there is less of a consensus about the relationship between this early years curriculum period and the educational and care provision offered before or after it. The status of early years education varies from country to country and sometimes within national boundaries (e.g. Canada). In some cases it is thought of as part of lifelong learning in a state-funded education system. For instance, in Spain educational provision is conceived around three cycles with birth to three and three to six years being the first two cycles.

Elsewhere it is seen as a special resource for children that proceeds, but is not directly related to, compulsory schooling.

3.1. To what extent is early years education considered to be a distinct phase?

Much of the international variation can be attributed to historic practices, the evolution of early education as part of childcare provision or as an adjunct to schooling as a response to parental demand or government concerns with economic and educational competitiveness. However, despite the variation and the messiness of attempts to make international comparisons about age and stage provision several points are clear (Bertram and Pascal, 2002):

- Discussions about the curriculum before school and writing about desirable early years provision commonly (and without apparent controversy) divide the period and curricula specifications into what is appropriate from birth to three and from three years old until the beginning of compulsory school.
- Most countries do not have centralised guidelines detailing specific educational provision from birth to three and there is general agreement that children younger than three should be receiving care and learning experiences tuned to their wide ranging individual needs and not be subject to a prescriptive agenda.[5]
- There is widespread agreement that children from three years until about six years old can benefit from educational experiences that foster social and intellectual development and promote positive learning dispositions.
- As they move into primary school education children usually experience some curricular and pedagogical discontinuities although there is international interest in ways of supporting this transition.

Evidence from developmental and cognitive psychology offers some endorsement for the distinctiveness of early years educational provision. By about age three children's development makes them more able to benefit from experiences in group settings and without their main caregivers. There is a move from associative to co-operative play during the early years (Broadhead, 2004) and children grow in self-control and understanding and in their understanding of others (Schaffer, 1999). By age three children begin to be able to count and share out objects suggesting a more differentiated understanding of quantity. Their vocabulary grows rapidly after about 20 months and their grammar grows in sophistication too. When they are about two years old children are beginning to speak but by six years old most children can use the whole sound and grammar system of their first language and understand much of the meaning that that language transmits.

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[5] The guidance on care for the youngest children in Scotland, *Birth to three supporting our youngest children* (Learning and Teaching Scotland, 2005), is a good example of this kind of approach. In England *Birth to Three Matters* (David et al , 2002) offers guidance for the same age group.

At around age three children begin to refer to their own beliefs or thoughts but not until they are about four years old will they be able to understand that others can have beliefs that differ from theirs, can think or believe things that another knows to be incorrect and that individuals' ideas can change over time. This theory of mind (knowing about knowing and learning) is an important prerequisite for the kind of formal learning that occurs in school (POST, 2000). Cognitive strategies needed for formal education, such as mnemonic strategies like rehearsal and clustering begin to develop along with metacognition (thinking about learning, knowing what you know) at around four to five years old (Bee, 1989). Importantly, as the POST report concludes, developmental psychology research indicates that children's main sensory, cognitive and linguistic growth is developed through play, exploration, talk and interaction with others and not systematic instruction.

3.2 How does early years education articulate with other phases of learning?

Transition to and from early years education

Compared to the attention given to the transition from early years or pre-school provision to primary school there has been relatively little research and writing on the relationship between the learning and care experiences of children under three and the typical early years phase. Children *move to early years educational provision* at about three years of age with varying experiences of maternal and non-maternal care and a study in the USA has suggested that these experiences will have an impact on their cognitive and language development (NICHD, 2000). However, at the point at which children move into early years education or group childcare provision the focus has traditionally been on issues of emotional separation from mother or other main carer rather than identifying and meeting varying developmental needs. Dalli's (2002) work has demonstrated that for children this transition is a complex process of induction into a new setting with its own ways of doing things and with the staff and established children acting as agents of induction. Given Dalli's finding that practitioners can make a difference to the quality of the transition there is scope for further research and development of practice on identifying and meeting children's social, emotional and learning needs and experiences as they move into early years settings.

In the USA *transition from pre-school or early years settings school* has become a 'hot' topic (Ramey and Ramey, 1998). Transition to primary school has been the focus of research activity and policy innovation elsewhere too (for example, in Australia, New Zealand, and Europe) and the proliferation of transition programmes is testimony to the widespread concern to ensure that children make a positive start to their school career. Yet, despite the growing body of writing in this field over three decades, Kagen and Neuman (1998) described the transition research field as 'stagnant'. Five years later, reviewing the concerns about transition across five Nordic countries Broström and Wagner (2003) concluded that too many children continue to have transition-related problems that range from mild and short-term to more persistent and negative attitudes towards education.

Considerable attention has been paid to *organisational features* that may make transition to school easier for young children (for example, Fabian 2002). A series of visits to familiarise the child with the school building (and in some cases with the new classroom and teacher) and induction meetings for parents are well established features of the transition from pre-school to primary in UK settings and elsewhere. In Iceland visits to the primary school by the whole class and their pre-school teacher were reported as the most widely used transition practice and invitations to pre-school children to participate in primary school events was the next most commonly reported familiarisation opportunity (Einarsdóttir, 2003). Reporting on a study in Australia Margetts (2002) noted positive benefits (in terms of social skills and, to a lesser extent, academic competence) associated with participation in transition activities. However, these benefits were based on teacher reports and the impact of visits and other transition events on the child's perspective on the move to school remains an open question. Evidence gathered in a Scottish study by Stephen et al (2003) suggested that visits and meetings were used more as an opportunity for teachers to explain the school's expectations and routines to children and parents than as time for teachers to get to know the new children in their class.

Developing better ways to pass information about individual children between educational sectors is sometimes advocated as an effective way of smoothing the transition process. However, there is scant evidence of the benefits of the considerable efforts to develop new forms of reporting and the priority given by pre-school practitioners to the recording of observations to inform the completion of transition records. Indeed, there is some evidence that, in Scotland at least, primary school teachers prefer to make their own judgements and only turn to pre-school reports when a child presents problems (Stephen et al, 2003; Cassidy, 2005). These findings support the common perception among pre-school practitioners that primary school teachers are not interested in the records passed from pre-school to primary (Wilkinson et al, 1999).

In addition to examining the benefits of transition events and records researchers have examined the impact of children's personal characteristics on the experience of transition. Margetts (2003) looked at the relationships between gender, birth order and language at home on children's adjustment to school while Griebel and Niesel (2003) have considered children's coping strategies. Others have explored the importance of making the transition with friends and of making friends in the new environment (e.g. Peters, 2003). The influence that children's expectations and understandings of school can have on their experience of transitions has been demonstrated by Dockett and Perry (1999). These studies argue for a relationship between early years educational provision and primary school that recognises individual differences and focuses on identifying and meeting children's needs rather than concentrating on a process of 'fitting in'.

At the end of the early years educational experience transition often means a shift from provision offered by or regulated by one governmental sector to that provided and regulated by another or from private to public provision. In the context of the UK, this may be from a Children's Centre or Family Centre managed by social services to a primary school managed by the local education authority. Some countries have attempted to overcome these *structural discontinuities* by designing curricula with explicit conceptual links across age groups e.g. the South Australian Curriculum Standards and Accountability Framework (Government of South Australia). The Foundation Stage in England (QCA, 2000) is designed to cover all the settings which children may experience from the age of three until they begin formal primary education. Although the last year of that stage is often spent in a reception class in a primary school children should continue to learn in ways framed by the Foundation Stage curriculum and the pedagogy associated with it. In Wales revisions are under way to produce a four year (three- seven years) foundation curriculum focused on active learning that will cover the two years before children enter primary school and be continued over the first two years in school, with a gradual transition to more formal education (ACCAC, 2004).

However, there is evidence that such 'bridging' initiatives are vulnerable to pressures from the different contexts in which they must operate. Keating et al (2002) have charted the tension experienced by reception class teachers who welcome and want to maximise the opportunities to learn through play endorsed by the Foundation Stage but face pressures from head teachers and governors who focus on attainment statistics. Wood and Bennett (2001) found evidence of national and school policy frameworks exerting increasing pressure on teacher's practice and planning as pupils move through the years of primary education. Teachers in reception classes and Year 1 had less flexibility over curriculum content than nursery practitioners. In their earlier study Bennett, Wood and Rogers (1997) found that play in the classroom was constrained by the teachers' perceived need to record evidence of learning and by restrictions arising from space, the school timetable and the expectations of parents and colleagues.

A study commissioned by the DfES (Taylor Nelson Sofres, 2002) found widespread approval in England for the Foundation Stage in reception classes. Nevertheless, two issues indicative of the tensions faced when trying to find structural ways of smoothing transition were identified: there was concern about the mixed messages around the degree of informality that should characterise the child's experience in a reception class and some feeling that the Foundation Stage did not prepare children sufficiently for, or articulate effectively with, the next stage in their educational career, Key Stage 1. The EPPE project found that practitioners were pleased with the emphasis on continuity into primary school that was present in the Foundation Stage curriculum guidance and with the positive influence it was having on reception class practice. But that study also found concerns about transition from nursery or playgroup to reception class and the move to Year 1 of the National Curriculum. In this context it is interesting to note Clark's (2005) criticism of the enduring concern with aspects of transition and her plea for more attention to continuity.

An alternative way of reducing pedagogical or curricular discontinuity is for staff working in different sectors to train or work together. Attempts at joint working have been reported from Norway, Sweden and Finland (Broström and Wagner, 2003). But in each case the dominance of school culture and status influences the outcomes. Johansson (2003) describes how in Sweden school teachers were the dominant influence in teams that were made up of preschool teachers, school teachers and free-time pedagogues. He ascribes this influence to the strong tradition and status of teachers but points out that the leading role of teachers tended to decline when teams worked together for relatively long periods of time and particularly when they had time together for reflection and discussion. Nevertheless, Johansson warns of the 'increasing encroachment of school traditions' in early years provision, particularly when this education is based in schools.

Early years as preparation for later learning

Although rejected by many involved as a preparatory phase alone early education is sometimes thought of implicitly (and in a few countries explicitly) as preparation for school and as preparing children for formal learning and a rapid shift to primary education at age six or seven. Aubrey et al (2000) review the evidence from a television programme that explored features of the early years curriculum in three countries considered to be successful in terms of educational attainment, Hungary, German-speaking Switzerland and Flemish-speaking Belgium. They point out that in each country there was systematic attention in the early years to promoting:

- attention, listening and memory skills needed for an oral learning environment
- co-operative group behaviour
- concepts such as space, quantity, time that underpin mathematical understanding
- phonological awareness necessary for reading and motor skills needed for writing.

Aubrey et al go on to refer to a study looking at attainment in Slovenia (Aubrey et al, 1998) where children had similar experiences in the early years to those in Hungary and did not start primary school until two years later than in England. They point out that when the Slovenian children had been in school for only nine months their attainment in mathematics suggested that there was no apparent benefit from the earlier start on formal education in England. Children in early years settings in England are introduced to some of the organisational aspects of more formal learning such as periods of whole class teaching or circle time (Sylva et al, 2004) and in Scotland can be observed learning to take turns to listen and speak, remain seated for brief periods and put their hand when they wish to speak in a group activity. Nevertheless, the kind of preparation for the learning process that will follow is less explicit in the UK than that described above.

An alternative conception of the relationship between early years education and the years that precede and follow is to think in terms of emergent understanding and the spiral nature of learning, identity and learner career that Pollard (1996) suggests. He argues that the spiral which starts at birth and continues through the early years and formal school captures the recursive nature of learning experiences as they are influenced by new contexts, new forms of instruction, changes in understanding and cognitive structuring and relationships with adults and peers. In Figure 1 below some examples of emergent understanding in the area of literacy are given. In this two-dimensional representation the dynamic spiral (driven by the children's development and the learning experiences they have) from one ‘phase’ to another is masked. Nevertheless, even this linear representation suggests that the relationship between early years education, learning experiences from birth to three and learning in school can be usefully conceptualised as a dynamic and iterative process.

Figure 1 Aspects of emerging literacy

Listens to stories	⇨	Sequences events in stories	⇨	Proficient story telling
Plays with language & rhyme	⇨	Attends to sounds in words	⇨	Uses phonological awareness when learning to read
Differentiates between drawing and writing	⇨	Pretends to write in play	⇨	Uses writing to communicate
Book sharing routines with caregivers & familiar with home literacy practices	⇨	Adopts literacy practices of early years settings	⇨	Selects from range of literacy practices

Viewed in this way what is important for the relationship between learning from birth to three, in the early years and in primary school is an understanding of the way in which knowledge and understanding in one period is revisited and developed in the next. This model encourages curriculum design and pedagogy to respond each child’s different pattern of progress from action and sensory orientated exploration, through play and activity based learning to more formal linguistically and cognitively mediated instruction and exploration.

Questions and Implications for Early Years Education in Scotland

- *Has the focus on smoothing organisational aspects of the transition from early years education to primary school meant that the challenges of a change in pedagogy and curriculum have been give insufficient attention?*

- *What scope is there for a more learner-centred and differentiated approach in Primary 1 given the particular accountability pressures experienced by primary schools?*

- *What model of learning is implicit in our thinking about transition? Do we see it as a step in a continuing spiral (with opportunities to revisit knowledge and skills and learn in new ways) or as a series of discrete phases each with their own pedagogy, curriculum and learning outcomes?*

- *If early years education is to some extent preparation for what follows what aspects of learning should it promote?*

4. (RQ3) HOW ARE DECISION MADE ABOUT WHEN CHILDREN SHOULD HAVE PARTICULAR EDUCATIONAL EXPERIENCES?

4.1 To what extent is chronological age involved in ideas about the type of provision offered to children?

As Bertram and Pascal (2002) report defining the age range covered by early years education is challenging. Some countries consider that they offer a curriculum from birth or at least view the first years of life as a stage in the care/education programme e.g. Sweden, Spain. Others reject any notion of curricular guidelines below three years old (although they may support care-orientated provision). At the upper end of the early years continuum the age of starting school defines the end of the early years curriculum, with the exception of those countries such as Wales where a deliberate decision has been taken to continues the early years learning experiences into primary school. The mean age for starting school across 20 countries in Bertram and Pascal's review is six years and world-wide the age at which states provide free, compulsory education is typically six or seven years.

In England four-year olds are usually in reception classes in primary schools, although continuing with the Foundation Stage. In Northern Ireland school starting age is four years and recently the Netherlands has moved to the same starting age. In the case of the Netherlands the new starting age has been implemented as an early intervention measure for disadvantaged children who might not attend if starting school at four remained voluntary. From 2007 Queensland, Australia will offer all five-year olds a full-time non-compulsory preparatory year before primary school begins and will raise the school starting age the following year. The full-time preparatory year will replace the existing part-time provision but will offer a curriculum that is based on play, creative and inquiry-based activities. The change is heralded as giving children a 'head start' and follows a positive evaluation of a pilot programme that concluded that full-time attendance in the preparatory year was more successful than part-time: a success attributed to increased continuity and consistency. It is worth noting here that the EPPE project found that full-day attendance at pre-school did not lead to any developmental advantage compared to part-time attendance although the duration of attendance in months was positively associated with intellectual development in Key Stage 1 (Sylva et al, 2004).

Chronological age is then typically heavily involved in decision-making about when children should move into and out of early years settings, although the precise ages involved may vary between and within countries. Age often determines eligibility to begin participation in early years educational provision (setting the entry date as the third birthday for instance) and the statutory age of compulsory education concludes the period (although as Bertram and Pascal point out children may have voluntary begun school or moved into a school environment a year or so before the statuary school starting age). Yet Sharp (2002) points out that there remains no definitive evidence about the progress of children who started school at different ages. She feels able to conclude that international comparisons suggest that a later start appears not to disadvantage children and there is no compelling educational reason for beginning school at age five.

4.2 To what extent is readiness considered when deciding on the appropriate curriculum for a child?

There is an extensive literature in the USA about readiness for school (e.g. Ramey & Ramey, 1999; Bowman, 1999; Meisels, 1999). This interest has perhaps been prompted by The Goals 2000: Education America Act which stipulates that all children in America will start school ready to learn. However, as Ackerman and Barnett (2005) point out, although parents, policy-makers, researchers and practitioners all agree that future academic success depends on being ready to learn and able to take part in school education the nature of the definition of readiness depends on who is offering it. Readiness as a concept is much less researched in Europe (where age is more likely to define access to school) but the issues raised by Ackerman and Barnett are pertinent here:

- Regardless of the chronological age specified for starting school across the states some children are considered 'not ready' and enter one year later but there are no consistent results from studies examining the benefits of this retention.
- Readiness testing is common, despite the very limited predictive validity of these tests and therefore their questionable use in decision-making about entry to school.
- Teachers, parents and children have different views of the skills or knowledge that are necessary for readiness.
- Schools need to be 'ready schools' able to support the diverse needs of age eligible children, rather than focusing on the traits of the child.
- Effective early years education can enhance school readiness.
- Readiness can be limited by risk factors such as poverty, parents' educational level, children's health and home environments that are unsafe or in disadvantaged neighbourhoods.

Neuman and Roskos (2005) point to the multi-dimensional cluster of behaviours associated with school readiness and go on to contribute to the debate over the likelihood of early learning standards being able to help develop readiness for school. They found that no two states defined early learning standards and indicators of learning in the same way. Their survey indicated that early learning standards reflect the particular character and constituency of each state, possibly as a result of influence by local early years experts and groups involved in the development of the standards. Neuman and Roskos argue for a shift to fewer and clearer expectations that are explicitly derived from research on early childhood learning. They go on to draw attention to what they describe as an 'empirical fallacy' implicit in the choice of some standards and indicators, pointing out that just because children are capable of something does not mean that is what they should do.

Readiness to begin the kind of educational experiences that children typically receive in early years settings seems to be almost uncontested and constrained only by national eligibility criteria. This absence of concerns about readiness for the early years curriculum may reflect the consensus view that, given a perspective on the curriculum that focuses on developmentally appropriate practice, practitioners can adjust the opportunities and support they offer to meet the needs of learners. Vartuli (1999) found that (regardless of actual practice observed) Head Start and kindergarten teachers were more likely to express a belief in developmentally appropriate practice than teachers working with older children in the first few years of primary education.

It is clear that there must be an expectation of considerable variation in children's developmental profiles as they enter and leave early years settings. A study of children's cognitive development as they start school in Scotland found what they described as 'enormous variations' in the assessment of reading, phonological awareness, maths and vocabulary (Tymms et al, 2005). They also found little relationship between the amount of pre-school experience that children had received and their baseline assessment as they started school; a finding in sharp contrast to evidence from England. While there is much in this study that warrants further investigation it is clear that early years education in Scotland does not result in children beginning school with the kind of homogeneous cognitive development Aubrey (2000) ascribes to the central European approach to preparation for school in the early years settings.

Prais (1997) compared the mathematical ability of children in England and Switzerland and found that although almost a year younger and starting school one year later the Swiss children performed better. Reviewing the evidence from this study the POST report (2000) suggests that one contributory factor may have been that the academic ability in the English reception class was much more variable. They go on to argue that these results and other work on school starting age demonstrate that an early school starting age confers little advantage by nine years old and is less effective in ensuring educational standards than homogeneity in ability which allows the group to progress at a faster and more uniform rate. The POST report concludes that greater effectiveness in ensuring attainment might be achieved by increasing the flexibility of the school starting age and allowing children to remain in an early education setting for another year. An alternative is for children to move to primary school in accordance with established age patterns but to be grouped with others with similar starting points and to experience a highly differentiate curriculum and pedagogy (in the first year at least) that allows for learning opportunities to match children's needs.

Questions and Implications for Early Years Education in Scotland

- *Can developmentally appropriate practice compensate for using chronological age to decide when children should begin primary school?*

- *How can schools become 'ready schools' that are able to meet the diverse learning and social needs of children who are old enough to begin primary education?*

- *What are the implications for pedagogical practice of aiming to nurture each child's learning by providing experiences that match his/her cognitive and social development?*

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