

WHAT DO WE KNOW ABOUT TEACHING YOUNG CHILDREN?

Tricia David
Canterbury Christ Church University College

*A Professional User Review of UK research based on the
BERA Academic Review 'Early Years Research: Pedagogy,
Curriculum and Adult Roles, Training and Professionalism' (2003)*

CONTENTS

| | | |
|------------|--|-----------|
| I | Introduction: the processes and foci of the research review | 3 |
| II | Pedagogy | 7 |
| III | Curriculum and assessment: principles, policy and practice | 16 |
| IV | Adult roles, training and professionalism | 21 |
| V | Conclusion | 25 |

FOREWORD

The members of the BERA Early Years Special Interest Group (SIG) took on a huge, collaborative task, when they undertook to produce the academic review on which this text is based. That review was written by the following members of the BERA Early Years Special Interest Group: Lesley Abbott, Angela Anning, Carol Aubrey, Patricia Broadhead, Pamela Calder, Mary Chambers, Tina Cook, Jenny Cumming, Tricia David, Anne Edwards, Bridget Egan, Peter Elfer, Linda Miller, Janet Moyles, Penny Munn, Linda Pound, Jeni Riley, Kathy Sylva, Peter Tymms, David Whitebread, Liz Wood, Trisha Maynard and Cathy Nutbrown. Naturally I am totally indebted to these colleagues and continue to delight in their commitment and enthusiasm. Special thanks must also go to Angela Anning, Carol Aubrey, Pam Calder, Leone Burton and Michael Bassey, and all the practitioners and policy makers who commented on drafts of this document, especially Robyn Bailey, De Ellinor, Trudi Gibb and their colleagues, and to Wendy Stretch in the BERA office for help with preparation of the document for publication.

The text is dedicated to all colleagues who work in the fascinating, multi-professional field of Early Childhood Education and Care, making and implementing policy, and teaching our youngest children.

Tricia David
Canterbury Christ Church University College
May 2003

I INTRODUCTION: THE PROCESSES AND FOCI OF THE RESEARCH REVIEW

As part of the process of founding a British Educational Research Association Special Interest Group (BERA Early Years SIG) for Early Years in 2000, its members decided to work together on a review of British research in this field, focusing particularly upon research carried out during the previous ten years. (Research from outside the UK, or that carried out before 1990, was drawn on only where it had been ground-breaking, influential in this country, or provided information in an area neglected in UK research.) Members of the group saw this collaborative work as an opportunity to gather together information about important research in Early Childhood Education and Care (ECEC) and at the same time to make the resulting evidence available in appropriate forms to a variety of readers.

During the last twenty years, the number of those involved in research in the field of ECEC in this country and throughout the world has grown as rapidly as the field itself. Like the House of Commons Select Committee (1993) and the OECD (2001), the SIG members regarded settings attended by young children as responsible for providing both care and education, because for this age group the two processes are inseparable. Before 1980 most research into ECEC was conducted by developmental psychologists rather than by educationists. Importantly, the field continues to be multi-professional, with an extensive range of workers qualified for their roles in different types of settings and services. In addition, early years researchers generally recognise that owing to the vulnerability and issues of power relating to babies and very young children, they must be rigorous about both ethical aspects of their work and the appropriateness of the whole process. Thus there is an increase in debate about the types of research carried out, as well as research methodology and its development for this field (OECD 2001).

A series of seminars were held by the group, at which participants debated potential topics for review and how to make judgements about the inclusion or exclusion of pieces of research. Finally, it was agreed that the research questions the group would explore collaboratively would be these.

- What does research tell us about how young children engage with curricula in educational settings?
- What does research tell us about how adults promote young children's learning in educational settings?

Clearly, this is a huge remit, but one of the main aims of the SIG members was to review main areas of ECEC research, so as to provide a data bank for colleagues, especially those new to the field or those beginning research. Secondly, the group recognised these questions as those which are at the centre of current concerns in the

ECEC field. Following further discussion, three subgroups were formed to address these questions focusing on Early Years research concerning:-

- pedagogy
- curriculum, and
- adult roles, professional development, training and the workforce.

In order to narrow the area to be explored, it was agreed the focus should be research about *practice*, rather than *policy*, related largely to provision for children aged from three to six years, in group settings (ie. mainly, Foundation Stage in reception classes, nurseries and pre-schools).

A full academic review (BERA Early Years SIG 2003) was written by the members of the sub-groups as a result of their searches. The user review presented here is a brief synopsis of the academic report of the evidence. It is organised in four sections. Summaries of the main sections of the academic review - *pedagogy, curriculum, adult roles, training and professionalism* - follow this introduction, in which a synopsis of evidence from brain research is also presented. Each of the three subsequent sections concludes with key messages for policy makers and practitioners. In order to provide a succinct summary, only a small number of the research reports referenced in the comprehensive academic review are given here. Readers are directed to the full report and others, for example, *Birth to Three Matters* (David *et al* in press), for more extensive research information and full details of the 400+ references.

Early learning: neurophysiological research evidence

Such is the current interest in research on early brain development, that, while still in office, former US President Bill Clinton convened a seminar on the topic at the White House. Although some specialists (Bruer 1997; Johnson 2002) urge caution in using 'old' or animal research, or evidence from the brains of the sick, to draw conclusions about young children's brain development, there is much interest here in Britain too, especially since neuroscientific evidence supports that of ECEC researchers (McNeil 1999; Blakemore 2000; Bransford *et al* 2000). So, in this review, it is important to take account of such evidence, although again, only a précis of that information and references can be given here.

A considerable body of neurobiological evidence (Gopnik *et al* 1999) supports the importance of enriched, stimulating early childhood environments. In particular, evidence from brain research is consistent with research in other fields and leads to the conclusion that, as might be expected, right from the start, babies are thinking, observing and reasoning, building 'mental models' of their worlds, which are then refined in the light of subsequent experience.

Key messages about brain research

- Experience - everything that goes on around the infant and young child - changes the brain.
- Babies and young children have powerful learning capacities.
- Everything the baby and young child sees, hears, touches and smells, influences the developing network of connections among brain cells (neurons).
- Babies participate in 'building' their own brains.
- Other people play a critical role in brain development - secure early attachments impact positively on brain development and positive, emotionally charged interactions within secure relationships foster babies' learning and brain development. Social interaction and active styles of learning are key factors.
- Rich experiences in particular areas of learning are also associated with growth in associated brain regions. (For example, a language rich early environment has been shown to be associated with the growth of connections in the left hemisphere of the brain - in the 'language centres'). At the same time, the neuroscientific research also indicates the potential importance of children making connections between areas of learning and of having experience through exploration and experimentation, as well as through collaboration and relationships with others.

Implications

- Positive emotional support, stimulation of all the senses and the presentation of novel challenges assist positive brain development.
- Play with other children provides challenges which cause important 'reprogramming' of the brain.
- Radically deprived or stressful early environments may be damaging to brain development.
- ECEC practitioners need to be made aware of 'implicit learning' - learning which children as well as adults achieve without their realising this is happening.

References

BERA Early Years SIG (2003) *Early Years Research: pedagogy, curriculum and adult roles, professionalism and training*. (Academic review) Southwell: BERA.

Blakemore, S.J. (2000) *Early Years Learning*. (Post Report 140) London: Parliamentary Office of Science & Technology.

Bransford, J. D., Brown, A. L. and Cocking, R. R. (2000) *How People Learn: brain, mind, experience and school*. Washington, DC: National Academy Press.

Bruer, J. (1997) Education and the Brain: A Bridge Too Far? *Educational Researcher* 26(8): 4-16.

David, T., Gooch, K., Powell, S. and Abbott, L. (in press) *Birth to Three Matters: Review of the Literature* London: DfES.

Gopnik, A. , Meltzoff, A. and Kuhl, P. (1999) *How Babies Think* London: Weidenfeld and Nicolson.

House of Commons Select Committee for Education, Science and Arts (1993) *Educational Provision for the Under Fives* London: Her Majesty's Stationery Office.

Johnson, M. (2002) Brain building. *Interplay* Summer 2002: 36-42.

McNeil, F. (1999) *Brain research and learning - an introduction*. *SIN Research Matters No. 10*, London: Institute of Education.

OECD (Organisation for Economic and Cultural Development) (2001) *Starting Strong* Paris: OECD.

II PEDAGOGY

Introduction

The term 'effective pedagogy' has been interpreted by a number of researchers as both 'teaching' and the provision of instructive learning environments and routines. However, it is also recognised that the values embedded in particular cultures and contexts influence the way practitioners work. Additionally, child development theories used to be presented as objective and universal, but now researchers are keen to demonstrate how theories, policies, practices and research questions about children's development and learning are unconsciously rooted in moral, social and political choices and problems (Hartley 1993). Even early childhood itself is a social and cultural construction and since cultures change over time and vary from each other, notions of childhood change correspondingly. These different ideas and beliefs about early childhood result in different pedagogical theories and practices, as well as different ideas about appropriate staffing for ECEC settings (Hartley 1993; Singer 1993; Greeno *et al*/1996; Alexander 1999). We suggest that what all this means is that pedagogy and research on pedagogy can only ever be provisional and all those involved in ECEC research need to examine the assumptions on which their work is premised. Research, especially cross-cultural research, demonstrates how the assumptions members of a society make about babies and young children shape what is considered appropriate provision, but perhaps even more importantly, shape the kinds of early childhoods experienced by the children.

Research focusing largely on pedagogy in Foundation Stage settings

Within the context of the Government's massive development of ECEC policy between 1997 and 2002, this first phase of education, in which the involvement of families and parents is crucial, is to embody the tenet that education and care are inseparable (DfES 2001). It is also recommended that children below compulsory school age should be taught informally, in ways that are appropriate to their developmental stage and their interests, with more structured learning introduced very gradually so that by the end of the reception year children are learning through more formal, whole-class activities for a small proportion of the day (*ibid*).

The findings from a number of studies (Moyles *et al* 2001; Sylva *et al* 2001; Siraj-Blatchford and Sylva 2002; Taylor Nelson Sofres and Aubrey 2002) which have focused on pedagogy in the Foundation Stage and KS1 suggest the following.

- On a global assessment of the quality of provision in ECEC settings, nursery schools, classes and centres combining care and education showed evidence of higher quality than reception classes. Pre-schools (playgroups) and private day nurseries lagged significantly behind local authority day nurseries.

- Reception classes were rated as poorer than other local authority early years settings for 'activities' as well as 'facilities'.
- Reception classes, nursery schools, nursery classes and combined centres scored well for 'interaction' and 'supervision'.
- The implementation of the Foundation Stage in reception classes appears to have resulted in a shift away from integrating the six areas of learning as set out in the QCA's Curriculum Framework for the Foundation Stage (QCA 2000), towards greater differentiation by subject by the end of the school year, together with more whole class teaching and ability grouping by age six.
- A similar shift seems to have occurred towards the greater use of whole-class teaching and grouping of children by ability during Year R and, with it, more formal implementation of the National Literacy and Numeracy Strategies by the end of the year.
- In literacy, reception classes were significantly better than day nurseries, private day nurseries and playgroups, and on a par with nursery schools, classes and combined centres.
- In mathematics, reception classes were stronger than all other sectors except combined centres -
- However, in science both nursery classes and nursery schools excelled over reception classes.
- ICT provision varied considerably.
- Practitioners generally stressed their belief that play should be given a high priority, but they have found this difficult to achieve in practice.
- Class teachers felt able to provide opportunities for children to plan, initiate and engage in self-chosen activities, but at the same time they reported creative and physical development to be less important than literacy and numeracy.
- Although reception teachers generally felt the Foundation Stage guidance appropriate, 25 per cent thought formal aspects of learning were not sufficiently addressed.
- Practitioners working in the Foundation Stage tended to lack the confidence, knowledge and training to teach aspects like early literacy through play and they have been influenced by their fear of the assumed expectations of Ofsted inspectors.
- Adults enhanced children's learning through play when they helped them develop strategies for the resolution of conflict.
- The most effective settings provided both teacher-initiated group work and freely chosen yet potentially instructive play activities.
- Settings rated as excellent tended to achieve an equal balance between adult-led and child-initiated interactions and activities.
- Cognitive outcomes for the children related positively to teacher/adult planned and initiated, focused group work and the amount of shared thinking between adults and children.

- Formative diagnostic assessment was regarded as vital but occurred infrequently.
- Effective practitioners were seen to assess children's performance so that they could ensure the provision of challenging, yet achievable experiences.
- Children's learning and behaviour was enhanced in settings where practitioners modelled appropriate language, values and practices; praised, encouraged and questioned, and where adults interacted verbally with children and encouraged socio-dramatic play.

From these studies, it has been concluded that combined centres, nursery schools and nursery classes seem better able to offer education and care to young children than do reception classes. In general, since the introduction of the National Curriculum and attendant assessment, conclusions drawn from the evidence indicate that pedagogical practices in the first stage of compulsory schooling have been overly subject to pressures for performance and, whilst there have been improvements in some areas, the curriculum shift may be shown to have gone too far in terms of the prescription of a single pedagogical formula, in particular for literacy and numeracy.

A main finding common to the studies about pedagogy points to the fact that in settings where children's learning is most enhanced, practice takes account of the need for balance between adult- and child-initiated activities and practice is nested within a framework of planning, resourcing and assessment, professional management, development and self-evaluation, parental engagement, and liaison with other professionals and the local community.

Research focusing largely on pedagogy in KS1 settings

Recent major educational research about primary schools has rarely focused exclusively on Key Stage 1 and in some cases has not even included this age range. A common aim has been the documentation of changes to pedagogical practices that accompanied the introduction of a National Curriculum. Alexander and his colleagues (1995), following up an earlier study, explored the impact of the National Curriculum on professional educational practice and found considerable change in curriculum planning, management, assessment and record-keeping. The preoccupation with curriculum content and assessment appeared to have pushed the development of pedagogy into the background. These researchers concluded that we need to know more about the relationship between subject structures, teachers' conceptual grasp of subject matter, and the character and content of teacher-pupil interactions.

Another project team (Brown *et al* 2000), who explored the policy process between 1997 and 1999 in relation to the production and implementation of the National Numeracy Strategy argued, on the basis of their findings, that the curriculum shift has gone too far. However, their research shows there have been improvements in

areas such as mental calculation. They add that the implementation of the Strategy has resulted in a lack of attention to children's experience of creative applications, investigations and problem solving related to numeracy. Further, they claim there has been a loss of meaning in numeracy tasks, which such activities could engender. Other studies present evidence of a tension between traditionalism and modernisation, with classroom life reflecting a more subject-based curriculum, increasingly controlled and defined, or dictated, forms of pedagogy, and more explicit forms of assessment (for example, Pollard *et al*/1994).

Developing a sense of self: social interaction and learning

We know that young children are forming social concepts during the early years of development, about themselves and about the people with whom they interact. They are striving to make sense of their experiences in interpersonal situations but the processes involved in making sense and the contexts most conducive to making sense are relatively un-researched.

Patricia Broadhead (2001) suggests that interactive play comprises *language* and *action*. Her research demonstrates increasing reciprocity and complexity, high levels of intellectual demand and creativity, joint problem-solving, linking children's social and cooperative play with intellectual challenge and problem-solving. The negotiation and reciprocity that go on during interactions between babies and the adults to whom they are attached show similar important effects (David *et al* in press). Research (Broadhead 2001) in this area indicates that:-

- as children become older, they show enhanced levels of mutual understanding and they begin to see other children as intentional agents;
- they learn to plan as they play, accommodating to the needs and intentions of others in order to ensure the play is sustained; and
- adults play a key role in supporting young children's emerging social and cooperative potential and in linking that potential with cognitive growth through the provision of an appropriate learning environment.

A central question emerging from this research is:- how can adults effectively intervene to promote children's own potential in naturalistic ways that correspond with their immediate and spontaneous interests? Effective interventions were observed, sometimes they were direct, such as adults playing and working alongside children, adults structuring play and designing tasks, sometimes indirect, such as allowing sufficient time for play themes to develop and providing open-ended resources to stimulate innovative responses, as described in the Reggio Emilia model of pedagogy (Edwards *et al*/1998; Abbott and Nutbrown 2001). Collaborative activities appear to be very important for children in the early years, with talk as a social mode of thinking and not just a means of communication, so that cooperation is linked with intellectual

stimulation and development - thus, practitioners need to take account of differences in language development, since this may impact on children's ability to collaborate (Sylva *et al*/2001; Mercer 1996).

Research on play, learning and teaching in the Foundation Stage

The emphasis in research on play has changed from 'What is play, and why does play occur?' to 'What does play do for the child?' and, 'How can good quality play contribute to children's educational progress and achievement?' Sometimes a direct relationship between playing and learning has been assumed, and learning is expected to occur spontaneously without the necessity for an adult presence. Several key studies have provided an evidence base on the quality of play, its educational benefits, and the pedagogy of play, in the contexts of pre-school and school settings (Sylva *et al*/1980; Meadows and Cashdan 1988; Hutt *et al*/1989; Bennett *et al*/1997). Nevertheless, a consistent picture emerging from research is that play in practice in education settings is problematic.

The need for educators to create the conditions for learning through play is a theme running through these studies on nursery/ Foundation Stage settings. The Froebel Block Play Research Group (Gura 1992) concluded that a number of learning-relevant conditions were necessary to support high quality play, including:

- adult involvement;
- allowing children to share the initiative about what is to be learnt;
- enabling children to take risks, be creative and playful in their ideas;
- organising the physical setting to maximise learning opportunities; and
- developing effective systems for observation and record keeping, and using these to inform curriculum planning.

The study provided further confirmation for a proactive and interactive role for practitioners, in tune with the socio-cultural theories of Vygotsky (Wood and Bennett 1997).

However, issues relating to a pedagogy based on play, highlighted by research (Bennett *et al*/1997; Wood and Bennett 1997) include:-

- there tends to be a lack of understanding of how play progresses in early childhood, and how progression can be supported;
- some practitioners believe that children will learn through free play, without any adult support or intervention, even though there is little empirical evidence to support this; and
- as a result of earlier experiences, not all young children know how to play, and the role of educators is critical in enabling them to benefit from play.

Although UK researchers have found that practitioners experience difficulties in implementing play-based learning, researchers in the U.S.A. report that children's play skills and preferences are correlated with developmental progression in social, cognitive and psycho-motor competence. They contend that children's play development moves along paths of increasing complexity and their thinking, similarly, becomes more complex, but at the same time is more orderly, structured and logical. Further, they suggest play may help children apply knowledge and skills acquired in one context, to another (Kelly-Byrne 1989; Hughes 1991; Sutton-Smith 1997).

A number of other research studies have raised concerns about the quality of educational experiences offered to four- and five-year-old children in reception classes. Although play activities were provided, teacher attention was found to focus predominantly on more formal tasks, particularly literacy and numeracy, and play served a mainly social function, with little evidence of cognitive challenge (Stevenson 1987; Bennett and Kell 1989; Cleave and Brown 1991).

Constraints on teachers' adoption of a play-based pedagogy include (Bennett *et al* 1997; Wood and Bennett 1997):-

- the legislated curriculum framework;
- parents' expectations;
- the school timetable;
- space and resources;
- adult:child ratios;
- children's abilities to profit consistently from play-based activities;
- teachers' difficulties (for example, lack of time) in interacting with children in order to support learning, and thus to increase their own knowledge of the value of play/learning contexts;
- despite their general commitment to integrating play into the curriculum, teachers find a play-based pedagogy difficult to sustain, because precise learning outcomes can be difficult to achieve or measure, and progression in learning difficult to demonstrate;
- intended learning outcomes are not always achieved; and
- few practitioners have had any training in how to adopt a play-based pedagogy and they often assume inspectors prefer teacher-planned and -led sessions.

Research into children's socio-dramatic play and the development of writing (Hall and Robinson 1995) concluded that a number of conditions for learning literacy were necessary:-

- the provision of authentic activities and stimulating contexts;
- maintaining links between oracy, reading and writing;
- structuring the learning environment to provide appropriate resources, materials and literacy 'events'; and

- educative, responsive interactions between teachers and children.

This research also indicated the danger of narrowing teaching in this area of the curriculum to focus mainly on literacy skills and instructional strategies, with the possibility of losing sight of the complexity of events for which these skills are required.

A number of other studies (Athey 1990; Nutbrown 1999) about play and learning indicate that children are capable of developing planned and purposeful play upon which educators can base planning. However, they also reinforce the point that learning through play is vulnerable in a climate of expected outcomes/targets, because it is often unpredictable, with children's own agendas taking activities in unplanned directions.

Key messages on pedagogy

Play has a high priority in practitioners' thinking but in practice it poses challenges because of various constraints on practice.

There has been an overemphasis on teaching content, rather than on the processes of pedagogy, with particular pressures for performance in literacy and numeracy, at the expense of areas of learning such as the creative and physical.

Implications

Children's learning is enhanced when they attend settings where staff plan a curriculum that is taught informally:

- in ways appropriate to a child's previous learning, experience and interests;
- with a mix of child-directed and adult-directed activities;
- where practitioners provide praise, challenges and encouragement;
- where they assess children's performance;
- where they model appropriate language, values and practices; and
- where they promote socio-dramatic play.

References

- Abbott, L. and Nutbrown, C. (eds) (2001) *Experiencing Reggio Emilia*. Buckingham: Open University Press.
- Alexander, R. (1999) Culture in pedagogy, pedagogy across cultures. In R. Alexander, P. Broadfoot and D. Phillips (Eds.) *Learning from Comparing: New directions in comparative educational research. Vol. 1. Contexts, Classrooms and Outcomes*. Oxford Symposium Books, 149-180.
- Alexander, R., Willcocks, J. and Nelson, N. (1995) Discourse, pedagogy and the National Curriculum: change and continuity in primary schools. *Research Papers in Education*, Vol.11 (1): 81-120.
- Athey, C. (1990) *Extending Thought in Young Children* London: Paul Chapman.
- Bennett, N. and Kell, J. (1989) *A Good Start: Four Year Olds in Infant Schools*. Oxford: Basil Blackwell.
- Bennett, N., Wood, E. and Rogers, S. (1997) *Teaching Through Play* Buckingham: Open University Press.
- Broadhead, P. (2001) Investigating sociability and cooperation in four- and five-year olds in reception Class Settings. *International Journal of Early Years Education*, 9 (1): 23-35.
- Brown, M., Millett, A., Bibby, T. and Johnson, D. C. (2000) Turning our attention from the what to the how: the National Numeracy Strategy. *British Educational Research Journal*, 26 (4): 455-471.
- Cleave, S. and Brown, S. (1991) *Early to School: Four Year Olds in Infant Classes*. Slough: NFER/Nelson.
- David, T., Goouch, K., Powell, S. and Abbott, L. (in press) *Birth to Three Matters: Review of the Literature* London: DfES.
- DfES (Department for Education and Skills) (2001) *The National Childcare Strategy (Green Paper)* London: DfES.
- Edwards, C., Gandini, L. and Forman, G. (1998) *The Hundred Languages of Children: The Reggio Emilia Approach Advanced Reflections*. Norwood: N J. Ablex.
- Greeno, J. G., Collins, A. M. and Resnick, L. R. (1996) Cognition and learning. In D. C. Berliner and R. C. Calfree (Eds.) *Handbook of Educational Psychology*. New York: Macmillan.
- Gura, P. (Ed) (1992) *Exploring Learning: Young Children and Block Play*. London: Paul Chapman.
- Hall, N. and Robinson, A. (1995) *Exploring Writing and Play in the Early Years* London: David Fulton.

- Hartley, D. (1993) *Understanding the Nursery School: a Sociological Analysis*. London: Cassell.
- Hughes, F.P. (1991) *Children, Play and Development*. Massachusetts: Allyn and Bacon.
- Hutt, S.J., Tyler, S., Hutt, C. and Christopherson, H. (1989) *Play, Exploration and Learning: A Natural History of the Pre-school*. London: Routledge.
- Kelly-Byrne, D. (1989) *A Child's Play Life: An Ethnographic Study*. New York: Teachers' College Press.
- Meadows, S. and Cashdan, A. (1988) *Helping Children Learn* London: David Fulton.
- Mercer, N. (1996) The quality of children's talk in collaborative activity in the classroom. *Learning and Instruction*, 6: 59-377.
- Moyles, J., Adams, S. and Musgrove, A. (2001) *The Study of Pedagogical Effectiveness. A Confidential Report to the DfES*. Chelmsford: Anglia Polytechnic University.
- Nutbrown, C. (1999) *Threads of Thinking* London: Paul Chapman.
- Pollard, A., Broadfoot, P., Croll, P., Osborn, M. and Abbott, D. (1994) *Changing English Primary Schools: the impact of the Education Act at Key Stage One*. London, Cassell.
- QCA (Qualifications and Curriculum Authority) (2000) *A Curriculum Framework for the Foundation Stage* London: QCA/DfEE.
- Singer, E. (1993) Shared Care for Children. *Theory and Psychology*, Vol.3 (4): 129-149.
- Siraj-Blatchford, I. and Sylva, K. (2002) *The Effective Pedagogy in the Early Years Project. A Confidential Report to the DfES*. London: London University Institute of Education.
- Stevenson, C. (1987) Young four year olds in nursery and infant classes: challenges and constraints. In NFER/SCDC *Four Year Olds in School Policy and Practice*. Slough: NFER/SCDC.
- Sutton-Smith, B. (1997) *The Ambiguity of Play*. Cambridge, Mass: Harvard University Press.
- Sylva, K., Roy, C. and Painter, M. (1980) *Childwatching at Playgroup and Nursery School* London: Grant McIntyre.
- Sylva, K., Melhuish, E., Sammons, P. and Siraj-Blatchford, I. (2001) The Effective Provision of Pre-school Education (EPPE) Project. The EPPE Symposium at *BERA Annual Conference*, University of Leeds, September 2001.
- Taylor Nelson Sofres with Aubrey, C. (2002) *The Implementation of the Foundation Stage in Reception Classes, Confidential Report to the DfES*. Richmond: Taylor Nelson Sofres.
- Vygotsky, L. S. (1978) *Mind in Society*. Cambridge, Mass: Harvard University Press.
- Wood, L. and Bennett, N. (1997) The Rhetoric and Reality of Play *Early Years* Vol 17 (2): 22-27.

III CURRICULUM AND ASSESSMENT: PRINCIPLES, POLICY AND PRACTICE

Curriculum models

Advocates of a developmentally appropriate curriculum argue that the education of young children should be conceptualised as a phase with a curricular framework based on evidence of how young children learn and develop (Blenkin and Kelly 1997). Research into the aims of early childhood workers in the UK show that they consistently rank emotional, social, physical and language development as priorities (Bennett 1987; Hutt *et al*/1989). Alternative curricular models for early childhood which have been the foci of research include:- High/Scope; Multiple Intelligences; Reggio Emilia; schemas; heuristic play; Quality in Diversity; Effective Early Learning.

The impact of different curricular models and forms of assessment

The impact of different curriculum models on outcomes for children has also been the subject of a number of research studies. Any type of nursery attendance has been found to impact positively on SATs results (Shorrocks *et al*/1992); maintained nursery attendance was found to promote greater learning oriented behaviour at entry to reception class than did pre-school (playgroup) experience (Sylva *et al*/1980; Hutt *et al*/1989; Sylva and Wiltshire 1993; Sylva *et al*/2003). However, a number of studies questioned the increasingly formal provision in reception classes now admitting children at just four years old (Bennett and Kell 1989; Pascal 1990; Bennett *et al*/1997). Further research on curriculum in KS1 indicates that teachers' expectations impact on children's progress; there are worrying patterns of differential achievements linked to gender and ethnicity; and children prefer learning activities which require high levels of active involvement and autonomy well-matched to their capabilities.

Assessment, including Baseline Assessment, has been a major focus of research during the last ten years (Wolfendale 1993; Lindsay and Desforjes 1998; Tymms 1999; Stout *et al*/2000). Overall, most teachers were reported to be positive about assessment but there remain questions about the potential damage which could be done to some children through assessments which focus on the easily measurable and the ECEC sector continues to lack confidence in the ability to use diagnostic assessment.

Literacy

Young children are meaning makers, active agents in their own literacy learning. Research (Gregory 1996; Riley 1996; Weinberger 1996; Nutbrown and Hannon 1997) suggests that:-

- exposure to and experiences with all forms of print, together with children's phonological and alphabetic awareness impact significantly on literacy development;

- children apply their formidable problem-solving skills to try to make sense of print just as they do in other areas; and
- parents, home cultures and languages have a powerful influence on literacy achievement, and teachers need to have the ability to build on the rhythms, patterns and experiences the children already know.

Mathematics

In relation to early mathematics, we know that:-

- adults at home mediate children's number experiences, but these are very infrequent interactions (Hughes 1986; Bottle 1999; Aubrey *et al*/2000);
- research on children in KS1 reveals that early emphasis on numeracy gives only short-term advantages and children who start later catch up within a few months; further, children have difficulty applying school mathematics to novel situations in the world outside (Hughes and Westgate 1998; Hughes *et al*/1999); and
- as with literacy, children's learning is enhanced when staff in nursery and reception class settings maximise on the mathematics potential of either what the children can already do, or the opportunities which arise in the environment of the classroom (Munn and Schaffer 1993; Kleinberg and Menmuir 1995).

Science

Young children's science education is revealed to be dependent on the perceptions and knowledge of staff. Research studies (Solomon 1994; Newton and Newton 2000) in this area indicate that:-

- children are given more consistent messages about health, for example, at home than at school. Teachers often underestimate the extent of children's early knowledge and understanding;
- children benefit from shared talk with familiar adults who can relate new information to what they already know; and
- as one might expect, children's knowledge and understanding of the world is found to increase with age and they gradually accommodate their intuitive theories, replacing them with scientific knowledge.

Art

Research concerned with early art education concentrates almost exclusively on drawing and children's representation of their worlds (Cox and Mason 1998). Rarely is there a focus on children's spontaneous art activity, but Matthews's work (2002) is an important exception. He has studied the development of children as art makers, their attempts at meaning making through art, and the role of the adult in sensitively supporting those developments. Other research (Kress 1997; Pahl 1999) has explored young children's mark making as part of their development of concepts and the language for dealing with them, as meaning making rather than as art *per se*.

Music

Music is declared important by early years specialists and, while nurseries fulfil this aim, KS1 classes rarely feature first hand experience for the children in music making, usually a limited repertoire of adult-led songs is employed (Young 2000). Yet rhyming in songs may promote literacy development, as well as providing other benefits. Children in Key Stage 1 do make up songs, but this activity usually takes place outside class time (Davies 1992).

Physical activity

Relatively little research has been conducted in the UK about young children's physical development in relation to education, although there is now increasing interest in this area of learning, in tune with anxieties about the health of the nation. Recently maturational models of physical development have given way to those of a more dynamic and ecological nature. Research on motor disorders has, however, increased (Sugden and Wright 1998). (For information about research on young children's health and related issues, see the review by the BMA 1999).

Key messages about curriculum and assessment

- Attendance at any form of pre-school setting is positively associated with test scores on school entry, regardless of gender, ethnicity, age or socio-economic status.
- Different assumptions about what young children should learn and at what age, impact on how they are taught and what is expected of educators.
- KS1 teachers are positive about the importance of assessment and monitoring, but insecure in applying assessment to diagnostic teaching in classrooms.
- There is evidence of differential achievements linked to gender and ethnicity at KS1.

Implications

- A mis-match can occur when children encounter cultural differences between home versions of literacy and numeracy and those at Foundation and KS1, unless teachers mediate the transition from one to the other.
- Teachers' knowledge and skills in observing and assessing children's existing knowledge, as well as their knowledge in different curricular areas, impact on their ability to enhance learning through the provision of an appropriate context, activities and support.
- There is an urgent need for research into young children's learning in the arts, humanities, physical education, and spiritual and moral education in ECEC settings.

References

- Aubrey, C., Godfrey, R. and Godfrey, C. (2000) Children's early numeracy experiences in the home. *Primary Practice*, 26: 36-42.
- Bennett, D. (1987) *The aims of teachers and parents for children in their first year at school in Four Year Olds in School: Policy and Practice*. NFER/SCDS Report. Windsor: NFER.
- Bennett, N. and Kell, J. (1989) *A Good Start: Four Year Olds in Infant Schools*. Oxford: Basil Blackwell.
- Bennett, N., Wood, E. and Rogers, S. (1997) *Teaching Through Play* Buckingham: Open University Press.
- Blenkin G. M. and Kelly, A. V. (1997) *Principles into Practice in Early Childhood Education* London: Paul Chapman.
- BMA (British Medical Association) (1999) *Growing up in Britain: Ensuring a Healthy Future for our Children - A Study of 0-5 Year Olds* London: BMA.
- Bottle, G. (1999) A study of children's mathematical experiences at home. *Early Years*, 20, 1, 53-64.
- Cox, M. and Mason, S. (1998) The young child's pictorial representation of the human figure. *International Journal of Early Years Education*. Vol. 6 (1): 31-38.
- Davies, C. V. (1992) Listen to my song: A study of songs invented by children aged 5 to 7 years. *British Journal of Music Education*, 9 (1): 19 - 48.
- Gregory, E. (1996) *Making Sense of a New World: Learning to read in a Second Language*. London: Paul Chapman Publishing.
- Hughes, M. (1986) *Children and Number. Difficulties in Learning Mathematics*. Oxford: Blackwell.
- Hughes, M., Desforjes, C. and Mitchell, C. (1999) Using and applying mathematics at Key Stage 1. In I. Thompson (Ed.) *Teaching Numeracy in Primary Schools* Buckingham: Open University Press.
- Hughes, M. and Westgate, D. (1998) Teachers and other adults as task partners for pupils in nursery and reception classes In M. Woodhead, D. Faulkner and R. Littleton (eds) *Cultural Worlds of Early Childhood* London: Routledge.
- Hutt, S.J., Tyler, S., Hutt, C. and Christopherson, H. (1989) *Play, Exploration and Learning: A Natural History of the Preschool*. London: Routledge.
- Kleinberg, S. and Menmuir, J. (1995) Perceptions of mathematics in pre-five settings. *Education 3 to 13*, Vol(No) :29-34.
- Kress, G. (1997) *Before Writing* London: Routledge.
- Lindsay, G. and Desforjes, M. (1998) *Baseline Assessment: practice, problems and possibilities*. London: David Fulton.
- Matthews, J. (2002) *Developing Drawing and Painting with Young Children*. London: PCP/Sage.

- Munn, P. and Schaffer, H. R. (1993) Literacy and numeracy events in social interactive contexts. *International Journal of Early Years Education*, 1 (3): 61-80.
- Newton, D. P. and Newton, L. D. (2000) 'Do Teachers Support Causal Understanding Through Their Discourse When Teaching Primary Science?' *British Educational Research Journal* 26 (5): 599 - 613.
- Nutbrown, C. and Hannon, P. (eds) (1997) *Preparing for Early Literacy with Parents*. Nottingham: NES Arnold.
- Pahl, K (1999) *Transformations: Children's Meaning Making in the Nursery*. Stoke on Trent: Trentham Books.
- Pascal, C. (1990) *Under Fives in Infant Classes*. Stoke-on-Trent: Trentham Books
- Riley, J. (1996) *The Teaching of Reading*. London: PCP.
- Shorrocks, D., Daniels, S., Frobisher, L., Nelson, N., Waterson, A. and Bell, J. (1992) *ENCA 1 project: The Evaluation of National Curriculum Assessment at key Stage 1*. Leeds: School of Education University of Leeds.
- Solomon, J. (1994) Towards a Notion of Home Culture: Science Education in the Home. *British Educational Research Journal* 20 (5): 565 -578.
- Stout, J., Tymms, P., & Thompson, L. (2000). Change for the Better? The Impact of Baseline Assessment on Reception Class Teaching. In C. W. Day & D. van Veen (Eds.) *Educational Research in Europe Yearbook 2000*. Leuven - Apeldoorn: Garant.
- Sugden, D. A. and Wright, H. C. (1998) *Motor Coordination Disorders in Children*. Thousand Oaks, CA.: Sage.
- Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I., Taggart, B. and Elliot, K. (2003) *The Effective Provision of Pre-School Education (EPPE) Project: Findings from the Pre-School Period. Summary of Findings*. www.ioe.ac.uk hotlink to EPPE website.
- Sylva, K., Roy, C. and Painter, M. (1980) *Childwatching at Playgroup and Nursery School* London: Grant McIntyre.
- Sylva, K. and Wiltshire, J. (1993) The impact of early learning on children's later development. *European Early Childhood Education Research Journal* 1: 17-40.
- Tymms, P. (1999) *Baseline Assessment and Monitoring in Primary Schools: Achievements, Attitudes and Value-added Indicators*. London: David Fulton Publishers.
- Weinberger, J. (1996) *Literacy Goes to School: The Parent's Role in Literacy Learning*. London: Paul Chapman.
- Wolfendale, S. (1993) *Baseline Assessment: A Review of current practice, issues and strategies for effective implementation*. Stoke-on-Trent: Trentham Books/ OMEP.
- Young, S (2000) Spontaneous music-making on instruments in the nursery. Paper presented at *BERA Annual Conference* Cardiff University, September 2000.

IV ADULT ROLES, TRAINING AND PROFESSIONALISM

Non-maternal care and very young children

Mooney and Munton (1997) reviewed research on the effects of non-maternal care - a topic that frequently resurfaces in the field of ECEC. Good social, emotional and cognitive outcomes for children are associated with consistency, sensitivity and responsiveness on the part of staff. Their conclusions are supported by American research (NICHD 1997) to the effect that ECEC services do not put child-parent relationships at risk as long as the child is receiving sensitive and responsive care in both home and ECEC setting, and that positive interaction occurs between the two contexts. The importance of consistency, key workers and small groups are further messages to emerge from other studies (Elfer and Selleck 1999).

Attachment and learning

Research (Howes *et al* 1994; Trevarthen 1995) in the USA and in Britain further reinforces the link between secure early relationships and advanced types of play and interaction with children as well as adults. 'Proto-conversations' between babies and their parents/ educators enhance language, thinking and understanding, as a result of the demands of cooperation and negotiation. The EPPE Project (Sylva *et al* 2003) cited earlier also reported finding that staff who relate to children sensitively provide better support for their cognitive development. Such staff tend to work in nursery schools and combined centres rather than in other types of settings (Sammons *et al* 2000).

The workforce

There is no national database identifying the nature of settings for young children and a variety of terms are used - a name does not necessarily provide sufficient information about a particular setting. However, we do know that the workforce is overwhelmingly female. Job titles provide little information about a person's initial training or qualifications. Recent surveys by the Early Years National Training Organisation (EYNTO *et al* 1999; 2000) should help with these gaps in knowledge about the field. Blenkin's (Blenkin and Yue 1994; Blenkin and Kelly 1997) work was the first to gather extensive data on practitioner qualifications, indicating that even among qualified teachers, only around 8 per cent were originally trained to teach the 3 to 5 age group.

The impact of training levels on outcomes for children

Research (Howes 1997) from America suggests that staff with graduate level qualifications are generally more sensitive and responsive to children than staff without such high level education and training. Children in the classes of graduates were more likely to engage in complex play with other children and with objects. Meanwhile, research in this country suggests that children who have attended settings with graduate teachers achieve higher reading, mathematics scores and social development than children who have attended settings with non-graduate staff (Jowett and Sylva 1986; Hutt *et al*/1989; Sylva and Wiltshire 1993; Sylva *et al*/2003).

Effective forms of training for ECEC staff

Training taking the form of experiential learning involving participants in discussing both their professional views and their feelings about relationships with young children improved professionalism and commitment (Hopkins 1990; Munton *et al*/1996).

Research exploring the training necessary for staff to work effectively with children with special educational needs generally calls for more training for all but there appears to have been no research examining what such training should entail.

Several projects (Pascal *et al*/1997; Moyles and Adams 2000) have been concerned with CPD aimed at improving practice by promoting practitioners' debates about defining 'quality' and reflecting critically on their own practice within trusted and supportive networks. Anning and Edwards (1999) examined how enquiring practitioners from a range of settings, with experiences and training that currently typify the field of ECEC, could develop pre-school, cross-sector and cross-authority, learning networks through an *educare* research partnership between local authorities, practitioners and university-based early years specialists. This project provided opportunities for developing a discourse that successfully bridged gaps between the lived experiences and working realities of individual professionals' lives.

The effects of different training and roles on outcomes for children

Studies exploring differences in role perceptions by staff (teachers, nursery nurses, classroom assistants, play leaders) suggest that they often perceive themselves as carrying out much the same job, but observational studies reveal that qualified teachers, in contrast to other staff, emphasise conditions for learning, take greater responsibility for planning and management and influence nursery nurses such that they are more aware of children's cognitive development than those who do not work alongside teachers. Nursery nurses place more importance on the development and practice of life skills; play leaders are more concerned with social skills (Hutt *et al*/1989; Moyles and Suschitzky 1998; Stephen *et al*/1999).

Educators' theories of pedagogy and their impact on children's learning

According to research (Schweinhart *et al* 1986) from the USA, (which, like all research evidence from abroad requires care in 'importing'), practitioners' assumptions about young children and their learning shape their practice and impact on children's learning. This High/Scope team claim, after decades of research, that children who are in teacher-led, formal settings experience a much greater incidence of learning and life problems later, compared with those who attend settings in which highly qualified teachers provide a context in which children learn through play and share initiatives, and where parents are encouraged to be involved in their children's learning.

Key messages about adult roles

- **Consistency, secure relationships with key workers, and links between setting and home are central features of effective practice.**

Implications

- **Learning for both young children and the adults who are their educators needs to be based on real-life, shared experiences.**
- **More research is needed on the outcomes for children of different types of staff training.**

References

- Anning, A and Edwards, A (1999) *Promoting children's Learning from Birth to Five: developing the new early years professional* Buckingham: Open University Press.
- Blenkin, G.M. & Yue N.Y.L. (1994) 'Profiling Early Years Practitioners: Some First impressions from a National Survey', *Early Years* 15(1):13-22.
- Blenkin G.M. and Kelly, A. V. (1997) *Principles into Practice in Early Childhood Education* London: Paul Chapman.
- Elfer, P. and Selleck, D. (1999) Children under three in nurseries: uncertainty as a creative factor in child observations. *EECERJ*, Vol 7(1): 69-82.
- EYNTO (Early Years National Training Organisation) National Day Nurseries Association, DfEE and the IDA (1999) *Independent Day Nursery Workforce Survey 1998. England*. London: Early Years National Training Organisation.
- EYNTO (Early Years National Training Organisation), the LGNTO and the DfEE (2000) *Survey of Education Support Staff and Volunteers in Nursery and Primary Schools* London: EYNTO/LGNTO/DfEE.
- Hopkins, J (1990) 'The observed infant of attachment theory' *British Journal of Psychotherapy* Vol 6: 460-471.

- Howes, C. (1997) Children's Experiences in Center-Based Child Care as a Function of Teacher Background and Adult: Child Ratio *Merrill-Palmer Quarterly Journal of Developmental psychology* Vol 43 (3): 405-425.
- Howes, C., Mattheson, C.C. and Hamilton, C. (1994) 'Maternal, teacher and child care history correlates of children's relationships with peers' *Child Development*, 65: 264 - 273.
- Hutt, S.J., Tyler, S., Hutt, C. and Christopherson, H. (1989) *Play, Exploration and Learning: A Natural History of the Preschool*. London: Routledge.
- Jowett, S. and Sylva, K. (1986) Does kind of pre-school matter? *Educational Research*, 28: 21-31.
- Mooney, A. and Munton, A. (1997) *Research and Policy in Early Childhood Services: Time for a New Agenda*. London: Thomas Coram Research Unit, London University Institute of Education.
- Moyles, J. and Adams, S. (2000) A Tale of the Unexpected: Practitioners Expectations and Children's Play' *Journal of Inservice Education* Vol. 26 (2): 349-369.
- Moyles, J. and Suschitzky, W. (1998) Roles and responsibilities of support staff in KS1 classrooms. *Early Years*. Vol. 18 (2): 49-54.
- Munton, A. G., Mooney, A. and Rowland, L. (1996) 'Helping Providers to Improve Quality of Day-Care Provision: Theories of Education and Learning.', *Early Child Development and Care*. 1184: 15-25.
- NICHD (National Institute of Child Health and Human Development Early Child Care Research Network) (1997) The Effect of Infant Child Care on Infant-Mother Attachment Security: Results of the NICHD Study of Early Child Care. *Child Development*, 68 (5): 860-879.
- Pascal, C., Bertram, A., Mould, C., Ramsden, F. and Saunders, M. (1997) *Effective Early Learning* London: Amber.
- Sammons, P., Sylva, K., Taggart, B., Melhuish, E. and Siram-Blatchford, I. (2000) The Effective Provision of Pre-School Education [EPPE] Project: A Longitudinal study. Paper presented at *ISEIC International Congress* Hong Kong.
- Schweinhart, L. J. Weikart, D P and Larner, M (1986) Consequences of Three *Preschool Curriculum Models through Age 15* *Early Childhood Research Quarterly* 1: 15-45.
- Stephen, C., Brown, S., Cope, P. and Waterhouse, S. (1999) Meeting Children's Education Needs: the Role of Staff and Staff Development. In V. Wilson , and J. Ogden-Smith (Eds) *Preschool Educational Research: Linking Policy with Practice* Edinburgh: Scottish Executive Education Department/ Stationary Office.
- Sylva, K. and Wiltshire, J. (1993) The impact of early learning on children's later development. *European Early Childhood Education Research Journal* 1: 17-40.
- Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I., Taggart, B. and Elliot, K. (2003) *The Effective Provision of Pre-School Education (EPPE) Project: Findings from the Pre-School Period. Summary of Findings*. www.ioe.ac.uk hotlink to EPPE website
- Trevarthen, C. (1995) The child's need to learn a culture', *Children & Society*, Vol. 9 (1): 5-19.

V CONCLUSION

Key messages have been given at the end of each section of this review. Here they are summarised.

Overall key messages from research on teaching young children

- Neurophysiological research about early brain development supports ECEC research suggesting that babies and young children learn best when they engage in shared thinking, decision-making and action with those with whom they have positive emotional relationships and secure attachments.
- Pedagogy based on play is difficult to achieve in a context of prescribed outcomes, but young children learn most effectively in settings where the curriculum is planned and they are taught informally, learning through a balanced combination of child-directed play and adult-initiated activity.
- The levels of education and training of ECEC practitioners impact upon children's achievements.
- Finally, there are growing efforts to achieve an integration of education and care in provision for young children.

Implication

- A number of areas of ECEC require further and ongoing research (for example, physical development/education, spiritual and moral development, art, music, staff training).

Endnote

- It is interesting to note that the pre-school ECEC sector has been required, repeatedly, to demonstrate its effectiveness, in order to justify its existence, in ways that have not been asked of provision for older children.
- There is now a significant body of research indicating that young children benefit from participation in Early Childhood Education and Care.
- *The challenge for the field is to ensure the optimal effectiveness and sustainability of this rapidly developing sector, by debating and acting upon the messages from research.*