

## Effective pre-school and primary education: Findings from the pre-school period

The Effective Pre-School and Primary Education (EPPE 3-11 1997-2008) Project is the most significant European study to date on the impact of pre-school and the contribution of family background on children's development (3-11 yrs old). The study is funded by England's Department for Education and Skills (DfES) and is a TLRP associate project. This brief focuses on findings from the pre-school period and their impact on national policy in the early years.

- Pre-school benefits all children. An early start and high quality are important and the benefits to children remain evident at age 10. → Free entitlement to pre-school for all children. Pilot projects on an early start (2-3 yrs) for disadvantaged children. Greater emphasis on 'quality'.
- Children made more gains in integrated settings (combining education/care) and nursery schools where there were more highly qualified staff. → Expansion of Children's Centres (under the Sure Start programme) and funding framework for enhancing the qualifications of staff across the sector.
- Good early years staff provided direct teaching, instructive learning environments and 'sustained shared thinking' to extend children's learning. → Greater emphasis on the importance of adult/child interactions acknowledged in the Primary Strategy and Early Years Foundation Stage.
- A high quality early years home learning environment (HLE) is associated with gains for children. What parents do is more important than who they are. → Initiatives to increase parental involvement through joined-up services, especially to disadvantaged families through Children's Centres and Early Learning Partnerships.

# The research

EPPE studied 2,857 children from differing social backgrounds and in a range of pre-school settings from when they entered pre-school at aged 3 to the end of Key Stage 1, aged 7. It also studied 315 children who had no pre-school experience, referred to as the 'home' group. The project collected information on children's intellectual and social/behavioural development as well as data on their family and home backgrounds and the quality of their home learning environment (HLE). The project also studied the pre-school setting the children attended.

The first part of the study (1997- 2003) focused on pre-school experience and its impact on child outcomes in the early years of primary school. A continuation of the project (2003-2008) is focusing on Key Stage 2 and what happens to the same group of children as they go through 'upper' primary school to age 11.

## The impact of pre-school provision

EPPE found that pre-school improves children's intellectual development and their social behaviour, with the 'home' group doing less well at entry to school even after taking into account differences in child, family and HLE characteristics. An early start at 2-3 years was particularly beneficial. There was no evidence that full day attendance led to better development than half-day attendance. The study concluded that pre-school can help to ameliorate the effects of social disadvantage and provides children with a better start to school. Many of the benefits continue to the age of 10.

## What can EPPE say about 'quality?'

An important question for the EPPE research was whether higher quality pre-school provision makes a difference to young children's development, and if so, what is essential in ensuring quality. Information from observations in pre-school showed significant links between higher quality provision and better child outcomes. Children who attend high quality pre-school centres show reduced anti-social and worried behaviour by the time they go to school. Good quality pre-schooling was observed in all types of settings, but integrated centres and nursery school provision had the highest quality scores. Several features of the quality rating scale were related to increased intellectual progress and attainment at entry to school. There was also a positive relationship between the qualification levels of the staff and ratings of centre quality. The higher the qualification of staff, particularly the manager of the centre, the better the observed quality of the provision. Having qualified trained teachers working with

children in pre-school settings (for a substantial proportion of time, and most importantly as the pedagogical leader) had the greatest impact on quality, and was linked specifically with better outcomes for children in pre-reading and social/behavioural development.

## What makes an effective pre-school?

EPPE conducted case studies in 'effective' settings (where children made more progress than expected) to see what these centres did, on a day-to-day basis, that helped children. This has important implications for all early years staff who are concerned with promoting good outcomes for children. Five areas are particularly important when working with pre-school children. They are the quality of adult-child verbal interactions, staff knowledge and understanding of the curriculum, knowledge of how young children learn, adults' skills in supporting children in resolving conflicts, and helping parents to support children's learning in the home. These are described in more detail below:

### *The quality of adult-child verbal interactions*

'Sustained shared thinking' is where two or more individuals work together to solve a problem, clarify a concept, evaluate an activity, extend a narrative etc. Both parties contribute to the thinking and it must develop and extend the child's understanding. The most effective settings encourage what we term 'sustained shared thinking', which often happened when children were 1:1 with an adult or with a peer partner.

### *Knowledge and understanding of the curriculum*

Workers' knowledge of an appropriate curriculum is just as important in the early years as at any later stage of education. Even in effective settings, there were some examples of inadequate knowledge, for example in the teaching of early reading skills.

### *Knowledge of how young children learn*

In effective centres, 'play' environments were used to provide instructive learning. The most effective pedagogy involves both 'teaching' and freely chosen yet potentially instructive play activities. Play activities often provided the best opportunities for adults to extend children's thinking. In effective settings, children initiate activities as often as the staff, and staff were more likely use more open-ended questioning.

### *How adults support children in resolving conflicts*

Effective settings adopted discipline and behaviour policies that supported children in being assertive while rationalising and talking through their conflicts.

### *Supporting children's learning at home*

Effective settings encouraged parental involvement with their children's learning.

Children did better where the centre shared its educational aims with parents, enabling parents to support children at home and complementing their pre-school learning. In more disadvantaged areas, staff had to be proactive in influencing and supporting the home learning environment (HLE).

## What is the impact of the home?

Interviews were conducted with parents to collect in-depth information about children and families to investigate some of the influences affecting young children that have a significant relationship with their intellectual and social/behavioural development. These findings point to the importance of demographic influences and the early years home learning environment (HLE).

### *Demographic influences*

There are strong associations between certain socio-economic factors (low income, mother's educational levels etc.) and children's attainment. However, the relationships are complex and confounded, for instance lower attainment amongst children with younger mothers is also likely to reflect other factors, including lower qualification and reduced employment levels. Bearing this in mind, the findings indicate that there is a strong relationship between a child's intellectual skills and their family background characteristics. However, this reduces (though is still strong) by the time children enter primary school. This indicates that pre-school, whilst not eliminating differences in social backgrounds, can help to promote better development and can thus play a role in helping to combat social exclusion.

### *The home learning environment (HLE)*

What parents and carers do makes a real difference to young children's development. The EPPE project developed an index to measure the quality of the early years HLE. This measures a range of activities that parents undertake with pre-school children that are related to improvements in children's learning and have a positive effect on their development. For example, reading to the child, teaching songs and nursery rhymes, painting and drawing, playing with letters and numbers, visiting the library, teaching the alphabet, teaching numbers, taking children on visits and creating regular opportunities for them to play with their friends at home were all associated with higher intellectual and social/behavioural scores.

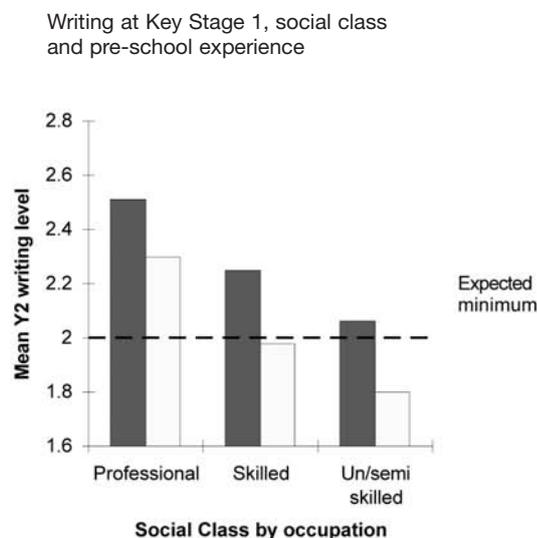
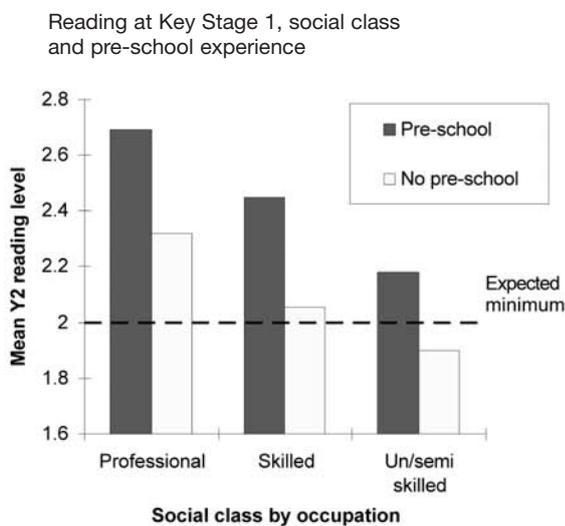
The HLE can be viewed as a protective factor in reducing the incidence of special educational needs (SEN). It is interesting to note that the HLE was only moderately associated with the mother's educational level. In other words, what parents do with their children is more important than who parents are. Parents with few qualifications can improve their children's progress, and give them a better start at school, by engaging in activities at home

that foster children's learning. This has important implications for programmes such as Sure Start that target disadvantaged areas.

## Do the benefits of pre-school last?

The findings with children at age 7 years show that the early intellectual boost given by pre-school in pre-reading and mathematics attainment has not washed out by the end of Key Stage 1, nor have 'home' children caught up. Thus, the absence of pre-school can be seen as a continuing disadvantage for academic attainment. Pre-school continues to show a generally positive impact on developmental outcomes. It can play an important part in combating social exclusion and promoting inclusion by offering disadvantaged children, in particular, a better start to primary school. Pre-school experience can be viewed as a package with attributes of quality, effectiveness and duration. The analyses suggest that these aspects continue to influence child outcomes at the end of Key Stage 1 although the effects tend to be weaker than those found at entry to primary school (age rising 5 years), while for social behaviour, only the effectiveness of the pre-school setting remains statistically significant in comparisons with the 'home' group. The graphs below compare the results of the pre-school and 'home' groups in National assessments at the end of Key Stage 1 (age 7). The graphs show the results for children from different backgrounds based on socio-economic status (SES) measured by parental employment. In all cases the children who had pre-school were doing better than those who did not have early pre-school experiences. The graphs below show reading and writing, but a similar result was found for maths. Note the line at Level 2 indicates the expected level of achievement for children at this age.

EPPE: The contribution of social class and pre-school to literacy attainment (age 7)



Recent follow up to age 10 years shows continuing benefits of high quality pre-school on reading and mathematics and a range of social/behavioural outcomes.

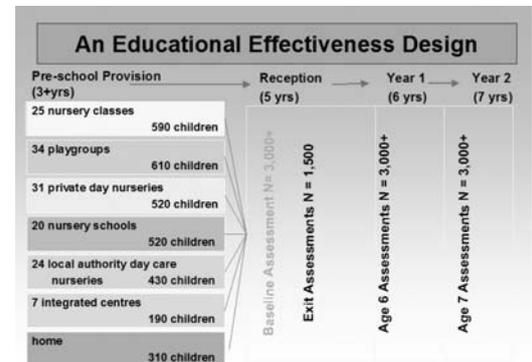
## Major implications

The last ten years have seen major changes to services for young children. The 'social agenda' has changed, with universal access to pre-schooling and significant extra investment in disadvantaged communities. The 'standards agenda' has broadened, with an interlocking curriculum from age 0 – 6 years and a new focus on 'education' for under 5's. The 'research agenda' has also been transformed, with the availability of more extensive background information, such as area characteristics and more sophisticated analysis techniques. EPPE set out to contribute to the debate about the education and care of young children and provide research evidence to inform policy making. It has made a significant contribution to all three agendas identified above. The findings on the benefits of pre-school have been used to support the expansion of this non-statutory sector. The findings on what kinds of pre-school setting provide the most gains for children have underpinned the role-out of Children's Centres. The findings on effective practices and the importance of quality have influenced the work of the Foundation Stage Curriculum Guidance, the Primary National Strategies for teaching and learning and the qualifications framework for those working with very young children. Similarly the work on the importance of the HLE has been helpful in developing new initiatives, particularly in disadvantaged communities.

The EPPE mixed-method research design makes use of quantitative statistical analyses and qualitative case studies. This has allowed EPPE to target issues that could make a difference to the lives of young children and their families. The project has contributed to policy development at both national and local level by providing sound

and persuasive research evidence. It could be argued that the EPPE research was pushing on an open door in policy development in that its findings coincided with a widely perceived need to develop early years education and care. But whilst the time was ripe to reform this non-statutory sector, the research evidence base was crucial to the extent and speed of the reform, made possible by Treasury funding. EPPE has provided information across Government departments and has informed successive Comprehensive Spending Reviews by the Treasury.

EPPE has influenced policy because its findings are large scale and broadly representative, longitudinal and based on 'value added' analyses that established the measurable contribution of a range of influences on children's development. This has enabled government to identify the relative costs and benefits that might be expected to accrue from investments of public money to enhance public services.



## Further information

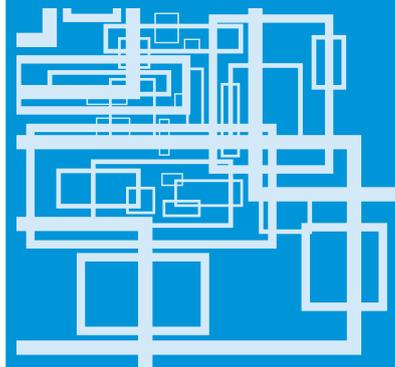
EPPE has produced 12 Technical Papers which are available from the EPPE office (telephone 020 7612 6219 or email [b.taggart@ioe.ac.uk](mailto:b.taggart@ioe.ac.uk)). More information & ordering of technical papers is available on the EPPE website: [www.ioe.ac.uk/projects/eppe](http://www.ioe.ac.uk/projects/eppe). Technical Paper number 12 is the final report of the original EPPE study. The final report and a number of research briefs are available to download from the DfES Research Website or can be ordered from DfES Publications, PO Box 5050, Sherwood Park, Annesley, Nottingham NG15 0DJ, email [dfes@prolog.ik.com](mailto:dfes@prolog.ik.com), telephone: 0845 602 2260.

The original EPPE study finished in 2003 and has since been extended to follow up the same sample of children to the end of their primary school at age 11 years in the Effective Pre-School and Primary Education 3-11 (EPPE 3-11) project, and on into secondary school at age 14 years in the Effective Pre-School, Primary and Secondary Education 3-14 (EPPSE 3-14) Project. It has so far produced three technical reports. More information is available at [www.ioe.ac.uk/projects/eppe](http://www.ioe.ac.uk/projects/eppe). Its final report will appear in autumn 2008.

## The warrant

This project was the largest of its type in Europe. It involved collecting longitudinal data on over 3,000 children as well as on their parents, home environments, pre-school settings and achievement once they entered school. EPPE researchers examined 141 pre-school settings: private and local authority nurseries, playgroups, integrated centres (both education and care), maintained nursery schools and classes. The research was based in five regions including rural, metropolitan, shire county and inner city settings, providing both social and economic diversity in the sample. The methodology included analyses of standardised child assessments taken over time, child profiles completed by pre-school staff, parental interviews, interviews with pre-school centre staff, quality rating scales and case study observations and interviews. These sources of data have been used in statistical analyses including multilevel modelling to explore the value added by pre-school provision after taking account of a range of child, parent and home background factors to produce rigorous and persuasive data for policy makers, and provided practical guidance on quality for practitioners.

## Teaching and Learning Research Programme



TLRP involves over 60 research teams with contributions from England, Northern Ireland, Scotland and Wales. Work began in 2000 and will continue to 2011.

**Learning:** TLRP's overarching aim is to improve outcomes for learners of all ages in teaching and learning contexts across the UK.

**Outcomes:** TLRP studies a broad range of learning outcomes, including the acquisition of skill, understanding, knowledge and qualifications and the development of attitudes, values and identities relevant to a learning society.

**Lifecourse:** TLRP supports projects and related activities at many ages and stages in education, training and lifelong learning.

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