
The role of language in children's early educational outcomes

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Introduction

Most children develop speech and language skills effortlessly, but some are slow to develop these skills and then go on to struggle with literacy and academic skills throughout their schooling. It is the first few years of life that are critical to their subsequent performance.

This project looks at what we know about the early communication environment in a child's first two years of life, and the role this plays in preparing children for school using data from a large longitudinal survey of young people (ALSPAC - the Avon Longitudinal Study of Parents and Children).

It examines the characteristics of the environment in which children learn to communicate (such as activities undertaken with children, the mother's attitude towards her baby, and the wider support available to the family) and the extent to which this affects a child's readiness for school entry (defined as their early language, reading, writing, and maths skills that they need in school).

Key Findings

- There is a strong association between a child's **social background and their readiness for school** as measured by their scores on school entry assessments covering language, reading, maths and writing.
- **Language development at the age of 2 years predicts children's performance on entry to primary school.** Children's understanding and use of vocabulary and their use of two or three word sentences at 2 years is very strongly associated with their performance on entering primary school.
- **The children's communication environment influences language development.** The number of books available to the child, the frequency of visits to the library, parents teaching a range of activities, the number of toys available, and attendance at pre-school, are all important predictors of the child's expressive vocabulary at 2 years. The amount of television on in the home is also a predictor; as this time increased, so the child's score at school entry decreased.
- **The communication environment is a more dominant predictor of early language than social background.** In the early stages of language development, it is the particular aspects of a child's communication environment that are associated with language acquisition rather than the broader socio-economic context of the family.
- **The child's language and their communication environment influence the child's performance at school entry in addition to their social background.** Children's success at school is governed not only by their social background; the child's communication environment

before their second birthday and their language at the age of two years also have a strong influence.

Background

Most children develop speech and language without effort, although there is considerable variation in the rate at which children acquire language with approximately 7% of children demonstrating impairments in these skills. There is increasing evidence of the links between children's early language and their success in school. Awareness of this is reflected in a number of policy and practice developments that focus on a child's language as a means of raising attainment.

Understanding the influences on children's language development in the general population can support evidence-based policy development in that factors which predict variation may indicate avenues for interventions. Those influences can be broadly conceptualised as internal to the child or as existing in the child's environment. Such influences are recognised to be interacting and dynamic. There is a well established model of risk associated with social disadvantage and poor language and cognitive development in the early years. However, such models are not well differentiated and rely on single measures or proxies such as a mother's level of education. This study offered the opportunity to understand how the child's socio-economic background interacts with their early communication environment and language development in predicting their ability at school entry age.

There is a considerable body of academic research which shows that children from lower socio-economic backgrounds tend to have poorer language skills when they start school. We know less about what it is in their early environment which leads to this.

Special educational needs and disability is an important Government priority. The Bercow Review of services for children and young people with speech language and communication needs in 2008 was followed by the setting up of the Communication Trust, the Communication Council and the 2011 Year of Speech Language and Communication Needs. The Special Educational Needs and Disabilities Green Paper, published in March 2011 looks to reform education and health support for children with special educational needs. Additionally there is increasing emphasis in the policy domain on language and communication in a child's early years. Recent reports including the review of the Early Years Foundation Framework have recognised the foundational role of language and communication in children's learning.

Methodology

This research examines the characteristics of the environment in which children learn to communicate and the extent to which this affects a child's readiness for school (defined as their early language, reading, maths and social skills they need in school).

There were three key research questions:

- To what extent is a child's early language development associated with the child's performance on assessments in the first years of formal schooling?
- To what extent is the child's early communication environment associated with a child's early performance on assessments in the first years of formal schooling?
- What are the characteristics of the child's early communication environment that contribute to children's language development at two years of age?

This study uses a large complex dataset from the Avon Longitudinal Study of Parents and Children (ALSPAC), also known as 'Children of the Nineties'. This is a population study of children born to mothers in and around the area of Bristol which used to be known as Avon. The children were born between April 1991 and December 1992. In the time since recruitment, mothers have completed questionnaires about a wide range of developmental, social, medical and environmental aspects of their child and about family life as have the children too as they grew older. Since the children were seven years of age they have been invited to a number of 'Focus' clinics at which a range of direct assessments have taken place. Data has also been collected from the children's schools and supplied by the Department for Education. This project focuses on the early questionnaires completed by mothers during the child's pre-school years and data collected from children's schools at school entry. 4941(51.3%) were boys and 4688 (48.6%) were girls.

To answer the three questions in the study, four measures were derived. This involved a complex procedure of 1) identifying suitable variables in the ALSPAC dataset that could be considered for inclusion in each of the measures; 2) where variables could be considered, checking the reliability of these variables in terms of the number of responses and the distribution of the responses; 3) re-coding variables and merging variables where appropriate to increase their reliability and likely explanatory value. From this process, the following four measures were derived:

Measure of socio-economic risk

The measure of socio-economic risk employed in this study is a multi-factorial measure derived from several measures of the child's socio-economic background including paternal occupation, mother's education, house tenure, overcrowding, financial difficulties and use of a car.

Measure of the child's early communicative environment

The communication environment measure was derived from questionnaires completed by mothers in their child's early years (first 2 years of life) about the activities and interactions their child engages in, the mother's feelings, attitudes and sense of wellbeing and resources available to the mother which underpin activity with the child.

Measure of the child's early language development

Children's language development up to the age of 2 years was measured using questionnaires completed by mothers when their child was 15 and 24 months old. The questionnaires cover development in language comprehension and production.

Measure of the child's school readiness at age 4 to 5 years

This was based on a baseline assessment that was in place for most of the ALSPAC children as they entered school between September 1995 and 1997. While the Early Years Foundation Stage Profile and its predecessors were not in place at this time, the Avon area had developed a single baseline assessment which was used by approximately 80% of the schools. The assessment covered core areas of language, reading, writing, maths, as well as social skills, problem solving, large motor skills and small motor skills. The four core areas were used to construct the primary outcome measure.

Once these main variables were identified and confirmed, a series of univariable and multivariable linear regression analyses were conducted. In these analyses, the outcome variable was the child's school entry assessment. Several models were tested to assess the contribution of socio-economic background, the early communication environment and early language development to the child's score on the entry assessment.

Findings

The impact of children's early language development on school entry assessments

Despite the strong influence of social class, children's early language made an important contribution to the variation in children's performance when they entered primary school. Children's understanding and use of vocabulary and their use of two-three word sentences at 24 months was very strongly associated with their performance even when adjusted for social class. So, a child's language added value to their development irrespective of their social background.

The impact of children's communication environment on school entry assessments

The communication environment was also a strong predictor of performance on entering school. So what the mother did (in terms of activities and interaction with her child), had (in terms of resources) and felt (in terms of feeling supported and sense of wellbeing) in the first two years of her child's life was shown to be important in children's performance at 5 years.

Influential factors in the child's communication environment included the early ownership of books, trips to the library, attendance at pre-school, parents teaching a range of activities and the number of toys and books available. So, for example, those children who owned more books and were taken to the library more

frequently at age 2 achieved higher scores on the school assessment when entering primary school. The amount of television on in the home is also a predictor, as this time increased, so the child's score at school entry decreased. The measure of TV used in this study concerns the amount of time that the TV is on in the home, so this could include both children's and adult TV.

The role of the communication environment in the development of language skills

Given that both the child's language skills and communication environment are important for outcomes at the start of primary school, this research took account of inter-relationships between the two.

It found that there was a strong relationship between a child's communication environment and their ability to use words at 2 years.

There was, however, no association between the child's social background and their language development after taking account of the communication environment. This suggests that in these early stages of language development it is the very particular aspects of a child's communication environment that are associated with language acquisition rather than the broader socio-economic context of the family.

Conclusions and implications

These findings confirm, within a large population-based study, research from smaller and non-UK studies. The findings are important in three ways:

- they emphasise the importance of the child's very early years from 0-24 months;
- they provide confirmation about specific aspects of the child's communication environment which are influential;
- they suggest that the effect of a child's language and communication environment may operate similarly across levels of social disadvantage.

The study identifies variables that are predictive of school entry performance and that could therefore be developed and tested as screening criteria, in particular the use of two or three word sentences. In addition, variables in the child's communication environment are identified that might be evaluated for their potential in interventions. Further research is recommended to investigate the child's communication environment in older children and over longer periods.

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Additional Information

The full report can be accessed at <http://www.education.gov.uk/publications/>

Further information about this research can be obtained from

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This research report was commissioned before the new UK Government took office on 11 May 2010. As a result the content may not reflect current Government policy and may make reference to the Department for Children, Schools and Families (DCSF) which has now been replaced by the Department for Education (DFE).

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