

The home learning environment and its role in shaping children's educational development

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Editorial

Introduction

Over the past three decades a growing number of studies have provided empirical evidence that the home learning environment (HLE) is an important predictor of differences in children's academic and social development. However, the definition and measurement of what is meant to constitute the HLE varies widely between different studies. Children's participation in learning activities, the quality of parent-child interactions, and the availability of learning materials are three key features of the home learning environment that help to support children's educational development (Bradley & Corwyn, 2002). With the development of the Home Literacy Model (Sénéchal & LeFevre, 2002) and the Home Numeracy Model (Skwarchuck et al., 2014) measures of the HLE have become more detailed and developed in relation to specific outcome measures (e.g. Manolitsis et al., 2013). These new approaches have improved our understanding of what happens in the home context regarding learning activities in different educational domains of children's academic development. However, only a few studies have examined changes in the HLE over time and its longer term effects on children's outcomes (e.g. Son & Morrison, 2010; Sammons et al., 2015) or have been conducted within an educational effectiveness research perspective. The present special issue therefore aims to widen our understanding of important features of home learning environments in different contexts (covering both generic and subject and age specific indicators). In detail, the various papers in this special issue investigate various HLE measures in different country contexts using mainly longitudinal data. In bringing together these contributions this special issue seeks to show how studies investigating the influence of the HLE in shaping children's development and outcomes contribute to and extend our current understanding of educational effectiveness both in the early years and in later phases of education.

The papers of the present special issue provide insights from recent research on the HLE in terms of a range of measures and different educational outcomes from studies across Europe and beyond. The papers cover research conducted in several different European countries (Cyprus, England, Finland, Germany) and include one paper from Australia (Queensland). Taken together they provide new empirical findings and a stronger evidence base on the measurement and influence of the HLE in different country contexts. Before giving a brief discussion of the key features of each article, we will first outline several issues that are consistent across all of the papers that fall into two categories about 1) the conceptualisation of the HLE and 2) the methodology of the studies.

- All studies conceptualize the HLE as multifaceted in nature and therefore provide a deeper understanding of what constitutes the HLE, and new evidence about the domain-specificity of HLE-effects.

- The separation of HLE-process indicators (i.e., reading books) and structural indicators (i.e. socio-economic status) across all papers takes into account the conclusions of earlier studies that suggest that what you do with your child is more important than who you are (Sylva et al, 2010.)
- The longitudinal nature of nearly most of the studies provides a more rigorous base for an educational effectiveness research perspective that is more appropriate to draw conclusions about the plausible direction of effects than is possible only if a cross-sectional perspective was employed.
- The differentiation of child outcomes through all papers allows clear and precise statements regarding which HLE aspects predict variation in particular kinds of child outcomes.

First, Toth and colleagues explore how various measures of children's and adolescents' HLE collected at different ages (from pre-school through to adolescence) are statistically associated over time when the effects of both individual and family background characteristics are controlled, using data from a major longitudinal educational effectiveness study, the Effective Pre-school, Primary and Secondary Education (EPPSE3+-16) project conducted in England. The paper investigates multiple dimensions of HLE covering a wide range of parent-child interactive activities (reading and playing together), parent-child shared activities (using the computer or participating in sport), individual children activities (dance, painting, reading), computer use, learning and playing activities, but also parental learning support and supervision in adolescence. Toth and colleagues provide data on the reliability and robustness of their measures and report evidence of predictive validity over time through follow up of the same sample across pre-school, primary, and lower secondary phases of education. Their measures provide new insights into the types of home learning activities parents and children engaged in at different ages in England during the first decade or so of the new millennium. Findings reveal that parents who had provided children with a positive (more stimulating and varied HLE) in the early years were also more likely to continue to provide stimulating home learning environments when children were older.

(2) Hayes and Berthelsen present data from Growing Up in Australia: The Longitudinal Study of Australian Children (LSAC) to examine the longitudinal nature of parental involvement in shared reading across the early years. Specifically, latent class growth analyses have been employed to: 1) determine the nature of different longitudinal profiles that capture the degree of parental involvement in home learning activities from age 2 to 6 years; 2) explore how family socio-economic characteristics are associated with the different longitudinal profiles of parental involvement; and 3) examine the extent to which the longitudinal profiles of parental involvement in home learning activities are associated with differences in children's academic achievement in the early years of school. They established 3 profiles which reflect (1) high stable involvement, (2) medium stable involvement, and (3) low initial involvement increasing over time. Profile membership was associated with different background characteristics, and predicted child outcomes in reading, writing, and numeracy, in which children in the stable high-involvement group were least likely to score below national minimum standards in all domains compared to the low-increasing involvement group. As with the Toth et al paper their findings reveal that children's home learning experiences vary over time, and they also show how different groups of children can be identified based on such a longitudinal perspective.

(3) Dimosthenous, Kyriakides, and Panayiotou present results from a longitudinal study in Cyprus, investigating both the teacher and the Home Learning Environment (HLE) effect on student achievement gains in mathematics achievement. A questionnaire measuring the HLE was administered to parents at the beginning of grade 1 capturing among other aspects of shared

parent-child activities and learning materials at home. Multilevel SEM techniques were employed and reveal significant, albeit low effects of the HLE on children's later mathematics achievement and progress, especially with regard to the HLE measure of learning materials. Higher effect sizes could be established for various teacher interaction scales, demonstrating the importance of teacher effects even when HLE effects are modelled. The authors advocate the use of value-added assessment approaches to evaluate teacher and school effectiveness in promoting not only quality but also equity in children's educational outcomes.

(4) Silinskas and colleagues present results of HLE research in Finland. They tested the Home Literacy Model (HLM; Sénéchal & LeFevre, 2002, 2014) in the context of transparent Finnish language. First, they examine the extent to which the home learning environment measured at kindergarten age predicts the later development of children's literacy- and reading-related skills in primary school (i.e., Grades 1 and 2). Second, to expand the current understanding beyond unidirectional parent-to-child relation, the paper investigated possible antecedents of maternal teaching of reading and shared reading. Overall, the results provide support for the generalizability of the Home Literacy Model to the orthographically transparent language in Finland.

(5) Lehrl and colleagues studied how experiences in the early and secondary school home learning environment shape children's reading and mathematical competencies, in Germany. By drawing on a sample of the longitudinal study BiKSplus [3-13] the authors investigated the longer-term associations of different dimensions of the early HLE referring to the home literacy and numeracy model with reading and mathematical competencies at secondary school age. Results reveal, that different dimensions of the early HLE are associated with specific early competencies, and that early HLE is associated with later HLE. Both aspects in turn predict later competencies revealing the potential for longer term effects (similar to the conclusions of Toth et al in England). The authors conclude that enriching the early years home learning environment might therefore be an important mean of increasing children's math and reading competencies via two pathways: the early competences and the later HLE.

(6) Cohen and Anders present results from an intervention study in Germany, AquaFam which examined the effects of a family support programme on children's development. Positive relationships, interactions and cooperation between preschool centers and parents are seen as crucial for encouraging interaction between children and teachers, and aid parents in providing stimulating HLEs (Kluczniok & Roßbach, 2014). The paper, in contrast to others in the special issue, is not based on longitudinal data (although the intervention study will support this perspective). Instead it investigated whether parent-preschool-cooperation activities are associated with children's social and language skills. The authors found negative associations between cooperation activities and the receptive vocabulary skills of the children, but positive associations between cooperation activities and teacher-rated receptive language and prosocial skills of the children. The authors concluded that these results might be an indicator that parents, and professionals are more likely to initiate cooperation when they are concerned about the children's developmental progress but that teachers might rate their children as more competent when they are in more intense collaboration with the parents – without an objective base.

Conclusion

This special issue provides new empirical evidence and theoretical insights based on recent educational research on the conceptualization, measurement and effects of the HLE in various country contexts. The contributions adopt an explicitly educational effectiveness perspective (Creemers, Kyriakides & Sammons, 2010) and employ robust research designs that typically use longitudinal data sets to predict change over time. All papers employ appropriate

quantitative methodologies and statistical analyses to investigate the topic of HLE in a variety of different international contexts. Taken together these contributions have a high potential to expand our knowledge and understanding of defining, measuring and evaluating both short and longer-term effects of the home learning environment. It is suggested that future educational effectiveness studies should seek to address the role of the HLE in more detail and investigate how it may interact (possibly mediate or moderate) with institutional effects at different levels linked to preschool, school, and teachers.

The main overall conclusion that can be drawn from the collection of papers in this special issue are:

- The early home learning environment shows lasting effects up to secondary school, irrespective of the home stimulation provided during the later age phases and such effects can be identified and separated from institutional effects (when appropriate multilevel models are employed for analysis).
- The different dimensions of the home learning environment show specific effects with developmental outcomes according to the theoretical assumptions of the home literacy and numeracy models.
- Moving beyond variable-centered approaches through adapting person-centered approaches captures stability and changes of the home learning environment across the preschool years and makes it possible to evaluate the importance of continued environmental stimulation.
- Collaboration between parents and educators should bridge the two learning environments home and preschool to promote children's development adequately. However, empirical evidence on the effects of collaboration activities for children's development are mixed and need further investigation.

The findings of the various papers in this special issue also have implications for policy makers and practitioners concerning ways to support better outcomes for children at different ages and the potential importance of fostering parent/carer contributions to children's out-of-school learning that influence educational outcomes in school. Collectively the papers in this issue point to the need to take greater account of home influences on children's learning and development in educational effectiveness research by offering an authoritative new contribution with an international perspective on the role of the HLE and its influence in supporting children's development and attainment across different phases of education.

While this special issue seeks to highlight the importance of better measurement and research into HLE effects, this does not mean that institutional influences are unimportant. On the contrary, there is a need to conduct further studies to explore how to better support children and adolescents who experience low quality home learning environments at different ages. Some parents/carers through illness, disadvantage, absence, employment demands, or lifestyle may lack the capacity to support their children's learning (e.g. Mistry et al., 2010). More research is also needed to explore how far high-quality educational experiences at pre-school or school or from other education/youth providers might help to support such children and young people's development and learning or ameliorate the consequences of poor quality HLE experiences. For example, Hall et al (2019) have pointed out how children's centre experiences can predict positive changes in the early years HLE in England and predict reductions in behavioural disorders for very young children. Furthermore, Lehl et al. (in press) found that more engaged preschool teachers in terms of giving advice and support regarding how to promote the child at home to the parents predict positive HLE changes which in turn predict language growth between the ages of 2 and 4. However little is known about how or why such effects may be promoted.

From a theoretical point of view, it has been claimed that “*Family engagement*” is the systematic inclusion of families as partners in children’s development, learning and wellness (U.S. Department of Health and Education and Human Services & U.S. Department of Education, 2016, p.1).

Families are children’s first and most important teachers, advocates, and nurturers. *Strong family engagement is central – not supplemental- to promoting:*

- *Children's healthy development and wellness*
- *Preparation for school*
- *Seamlessly transitioning to kindergarten and primary school*
- *Supporting academic achievement in primary school and beyond*

(U.S. Department of Health and Education and Human Services & U.S. Department of Education, 2016, p.1).

This perspective reminds us of the importance of the HLE for child development especially in the early years but also as a foundation that supports later educational success. With these crucial outcomes in mind it is necessary to develop robust and evidenced ways to: a) support parents in enhancing their children’s learning; b) provide appropriate training and support for educational professionals in order to support parents to enhance their children’s learning at different ages before school entry and at later phases of education and c) find effective ways to do this both within settings and / or at home. To do so we need more research and development studies including longitudinal, and intervention designs adopting an educational effectiveness perspective that follow-up children across different phases of education to establish what models of intervention may be more effective and appropriate to assist different groups of parents/carers to better support their children’s learning across different ages and in different country contexts. We hope that the papers in this special issue provides timely evidence to stimulate and guide such future work and the development and testing of more focused and age appropriate interventions to support children’s progress and development trajectories over the long term.

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