

Investigating the Role of Home Learning Environment in Shaping Children's Literacy Development: A Comparative Analysis of Two Families in Rural India

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Abstract

'Home learning environment' refers to the learning activities occurring within the four walls of one's house, encompassing both formal and informal values, beliefs, and attitudes shared between parents and children. Napoli and Purpura (2018) delineate this environment as comprising the home literacy environment (HLE) and the home numeracy environment (HNE), both of which significantly impact children's literacy development. Through a qualitative research approach, this paper investigates the dynamics of the home learning environment and its influence on literacy development in children in the context of India. The findings underscore the pivotal roles of parenting practices and home learning environment in fostering essential competencies among young children. Furthermore, the study highlights a noticeable discrepancy between middle-class and lower middle-class families, making it imperative for community members, educators and NGOs to provide support tailored to the latter group's needs

Keywords: literacy, home learning environment, parenting practices, children's literacy development, socio-economic disparity

Introduction

Growth and development take place in the lives of children in multiple contexts, such as parenting and home environment. They play a significant role in children's well-being and affect their families over time (Bronfenbrenner, 1986). In this instance, parents are primarily responsible for structuring their children's home environment (Morin, et al., 2016). It creates circumstances for improving children's learning (Heckman, 2006). The home environment of a child can be described by the concept of 'capital', which is often studied in the fields of economics and sociology. To define the home environment, in view of the context of the study, the concepts of three different types of capitals that constrain parenting, such as economic capital (the kind of monetary resources available at

home), human capital (the educational qualifications of parents) and social capital (the number of relationships and linkages with other individuals) are used. Their role in the development of their children's literacy and numeracy is significant (Becker & Tomes, 1994).

In this study, the definition of the term 'literacy' is limited to a person's ability or skill to read and write simple sentences with comprehension in a language one is familiar with and do basic arithmetic operations. This is considered to be the conventional definition of literacy, accepted and practised across all developing and underdeveloped countries. However, it may not be applicable in developed countries. For example, in the study, titled 'International Adult Literacy Survey' (IALS), conducted by the Organisation for Economic Cooperation and Development (OECD) in 1997, the concept of literacy was

not conceived conventionally as involving the ability to read and write but as involving a range of activities of the highest level, involving problem-solving, reasoning and other higher-level cognitive skills drawn from information in printed texts. This definition is highly related to the complex information processing skills of an individual, which may not be appropriate in the context of marginal communities residing in developing and underdeveloped countries. Hence, it can be said that there is no universal argument on how to define literacy, and not all countries use the same definition to classify a person as literate. Literacy skills, such as reading, writing and doing basic arithmetic operations, can be acquired both at home and in educational settings like schools (Morin, et al., 2016). Children, who develop these skills early in life, are better able to take advantage of learning opportunities at a later stage (Brooks-Gunn, et al., 2014).

Home Learning Environment and Its relation with Children's Literacy Development

'Home learning environment' refers to the learning activities that parents and children do together at home. It comprises a plethora of formal and informal values, beliefs, and attitudes depicted in the provisions, resources and socialisation experiences provided by parents to their children (Dearing & Tang, 2009). According to Napoli and Purpura (2018), the home learning environment is frequently conceptualised as consisting of two domains—home literacy environment (HLE) and home numeracy environment (HNE). It plays a significant role in the literacy development of children (Silver, et al., 2020; Mol & Bus, 2011; and Scarborough & Dobrich, 1981). Studies reveal that HLE is related to children's literacy development (Mol & Bus, 2011; Evans & Shaw, 2008; and Scarborough & Dobrich, 1981) and HNE with numeracy development (Daucourt, et al., 2021; Susperreyguy, et al., 2020; and Kleemans, et al., 2012). The home learning

environment is greatly affected by the parental education (Silinskas, et al., 2020; Esmaeeli, et al., 2018; Thompson, et al., 2017; and Purpura & Reid, 2016).

In research studies on HLE and HNE, activities at home have been classified separately (Silver, et al., 2020; Mol & Bus, 2011; Sénéchal & LeFevre, 2002; and Scarborough & Dobrich, 1994). As part of their home literacy model, Sénéchal and LeFevre (2002) established two categories of HLE activities—formal and informal. Formal activities are code-related activities that aim to instruct children. Informal activities are various playful activities, involving print or numbers, for example, shared reading or measuring ingredients while cooking. There is growing evidence that both formal and informal activities contribute to the development of literacy and numeracy skills (Soto-Calvo, et al., 2020; and Sénéchal & LeFevre, 2014) and that different practises in the home environment may correlate with children's skills at different ages (Thompson, et al., 2017).

There are various factors associated with the home learning environment that affect children's literacy development. According to the study, the major factors that affect children's literacy development are family's learning background, reading and numerical activities, and home resources. The other factors include the reading and numeracy interests of children and the parent-child relationship (Kumar & Behera, 2022; Tiwari, 2022).

Familial Risk for Literacy Difficulties and Its Relation with the Development of Literacy Skills

The term 'familial risk group' is employed to characterise a cohort of children whose parents grapple with literacy difficulties (Salminen, et al., 2021). This delineation suggests that there exists a correlation between parental literacy challenges and the likelihood of their children encountering similar difficulties. A critical aspect of

this issue is the observation that literacy difficulties are prevalent within families belonging to marginalised groups (Snowling & Melby-Lervåg, 2016). Consequently, children born into families where parents face literacy challenges have an elevated probability of developing comparable difficulties, highlighting the intergenerational nature of this issue (Salminen, et al., 2021).

The magnitude of the challenge faced by children in this group is underscored by empirical evidence. Research studies conducted by Puolakanaho, et al. (2007); Van Bergen, et al. (2014); Hulme, et al. (2015); Torppa, et al. (2015) and Esmaeeli, et al. (2019) demonstrate that children within the group are four to 10 times more likely to experience literacy difficulties compared to their counterparts who do not belong to this risk group. This statistical insight reinforces the substantial impact of familial risk on children's literacy outcomes.

Despite the significance of these findings, it is noteworthy that literature on this subject remains relatively limited. Shalev and Gross-Tsur (2001) and Soares, et al. (2018) point out the scarcity of pertinent research, indicating a gap in the understanding of nuanced dynamics between parental literacy difficulties and children's development within the group. Nevertheless, the available literature suggest a discernible influence of parental literacy challenges on children's development.

The interplay of hereditary factors within the group is a subject of contemplation (Esmaeeli, et al., 2019). The proposition that hereditary familial risk may exert a direct impact on children's abilities is posited, adding a genetic dimension to the complex relationship between parental literacy difficulties and children's outcomes (Hamilton, et al., 2016; Dilnot, et al., 2017; Esmaeeli, et al., 2018 and Salminen, et al., 2021). Moreover, the role of parental literacy skills extends beyond genetic influence, as evidenced by studies conducted by Hamilton, et al. (2016); Dilnot, et al. (2017) and Esmaeeli, et al. (2018). These studies emphasise the

interactive role of parental literacy skills with the home learning environment, suggesting a multifaceted mechanism through which familial risk influences children's literacy development.

A crucial implication of these dynamics is the potential detriment to the home learning environment for families within the group lacking adequate parental literacy skills. The absence of proficient literacy skills among parents may hinder their ability to provide an encouraging and conducive learning environment to children. This insight underscores the importance of addressing not only the direct impact of familial risk but also the broader context of parental literacy skills and their interaction with the home learning environment.

Context and Research Questions

The demographic landscape of India reveals a stark reality where 68.8 per cent of the total population, translating to 833 million people, resides in rural areas (Census of India, 2011). Within these village settings, a substantial number of families, particularly from marginalised communities, grapple with sub-optimal socio-economic conditions, encountering persistent financial challenges. This economic strain often becomes a formidable barrier, discouraging parents from prioritising their children's education. Consequently, children from such families find themselves engaged in household chores or employed in local shops, forsaking educational opportunities. The detrimental impact of these circumstances is evident from the high dropout rates among these children, as they are compelled to abandon studies due to the absence of essential opportunities and support at home. The struggle faced by families in marginalised communities creates a cycle of educational disadvantage, perpetuating limited access to learning resources and hindering the development of literacy skills. In contrast, children belonging to highly educated families experience a markedly different reality. The

conducive learning environment provided by such families becomes a catalyst for their academic success. These children benefit from supportive parental involvement, educational resources, and a mindset that values and encourages learning. Recognising this stark dichotomy, efforts were made to unravel the intricate dynamics at play in the context of home learning environment and their impact on children's literacy development in India. Here, the objective raised three questions, in particular, that need to be addressed—how do the socio-economic conditions of the families look? Do parents have literacy difficulties? What role does the home learning environment play in children's literacy development? Methodology

Methodology

Research Design

The study was crafted with a qualitative research approach tailored to its research questions. To delve into the intricacies of the home learning environment's impact on children's literacy development, case study method was employed. The in-depth examination focused on comparing the findings derived from the data collected from different families.

Participants

Two children (A and B) and their parents were selected for the study, using purposive sampling technique. The children were selected based on their previous year's academic performance at school. A came from a lower middle-class family, whose performance was low compared to his peers at school; while B belonged to a middle-class family, who performed better than his peers. A studied at a government school and B went to a private school. In this study, the term 'parents' is restricted to the children's mothers. Both the families lived in the same village located in the Goalpara district of Assam.

Tools

Questionnaire, observation techniques and semi-structured interviews were used for data collection. These tools helped to delve into the socio-economic backgrounds of the families (semi-structured interview schedule), and how parents' behaviour and home environment affected children's literacy development (questionnaire, printed texts, observation techniques and semi-structured interview schedules).

Data Analysis Technique

To analyse and interpret the data, thematic analysis technique was used as it best suited the study, considering its nature. Thematic analysis, a qualitative research method, entails identifying, analysing and reporting patterns or themes within data (Javadi & Zarea, 2016). It enables researchers to unveil meaningful insights and comprehend underlying themes or patterns in participants' responses (Braun & Clarke, 2012).

Results

The data were analysed and interpreted in two phases, aligning with the in-depth study of the two families treated as individual cases.

Case Study 1

In this section, the data of the lower middle-class family were analysed and interpreted. According to a study conducted by Home Credit India (2024), the annual income of a lower middle-class Indian family is something between ₹2 lakh and ₹5 lakh.

Socio-Economic Conditions of the Family

Family income

A's family has a monthly income of approximately ₹10,000 (equivalent to about ₹120,000 annually), primarily earned by his father, who works as a vegetable vendor.

This income is spent in meeting all family expenses, including household costs, medical bills and A's education. Because of this, the family struggles to save money for unknown future emergencies. A's mother is a homemaker, contributing to the family in non-monetary ways.

Parental education

A's father is 42 years old. He has studied up to Class 8 in a government Assamese-medium school, possessing proficiency in Assamese, Bangla and English. He can speak Assamese and Bangla, read and write Assamese with comprehension, and English without comprehension. Aged 35 years, A's mother has studied up to Class 6 in a government Assamese-medium school. She understands Assamese, Bangla and Hindi. She can speak Assamese and Bangla, read and write Assamese with comprehension, and read and write some English without comprehension.

Family structure

A's family comprises five members—father, mother, two children and grandmother. A has a younger sibling. The family communicates in Bangla.

Literacy Difficulties among Parents

To assess the literacy skills of A's parent (mother), a comprehensive evaluation was conducted. Literacy difficulties, in this context, refer to challenges in reading and writing simple sentences with comprehension in a familiar language, along with doing basic arithmetic operations. The assessment utilised simple printed texts and a questionnaire, encompassing tasks ranging from easy to difficult, covering various domains of literacy skills. The participant, i.e., A's mother, was approached politely and encouraged to complete the tasks.

Reading skills

The participant, i.e., A's mother, was provided with a paper containing stories printed in two languages—Assamese and

English. The participant was fluent in reading the text in Assamese. However, she showed difficulty in reading the text given in English. Despite having some knowledge of the English alphabet, she struggled to read out the words fluently and faced challenges in comprehension.

Writing skills

A questionnaire, encompassing exercises on vocabulary, print and letter knowledge, was employed to evaluate the writing skills of A's mother. The questionnaire was divided into two sections—one in Assamese and another in English. The participant was instructed to do the exercises in both the sections. The data collected indicate that the participant attained a 'norm score' (a score indicating that she is proficient in writing) in the Assamese section. But she fell short of achieving the same in the English section, reflecting challenges in English writing skills.

Numeracy skills

To evaluate the participant's numeracy skills, a questionnaire, consisting of questions on traditional number operations—addition, subtraction, multiplication and division—was used. The questionnaire was presented in two sections—one in Assamese and the other in English. The participant was asked to solve the questions in both the sections. The data collected indicate that the participant successfully solved the questions related to addition and subtraction in both the sections. However, she faced problems in solving multiplication and division questions, indicating the areas where her numeracy skills needed to be polished.

The Role of Home Learning Environment in Children's Literacy Development

The significance of the home learning environment in children's literacy development is well established (Silver, et al., 2020; Mol & Bus, 2011; and Scarborough & Dobrich, 1981). In exploring this aspect within the family, observations were made regarding how parents support their child's

literacy development. The data reveal that A has school textbooks in the Assamese language. Also, there is a notable absence of textbooks and other supplementary materials like storybooks, newspapers or magazines printed in the mother tongue, i.e., Bangla. When asked about the lack of storybooks with pictures, the parent (i.e., the mother) expressed uncertainty, citing lack of guidance on appropriate book choices. This absence suggests a limited printed environment at home that could enhance the child's literacy skills. However, it is noteworthy that the parent possesses a smartphone, which the child used occasionally for watching cartoons and listening to music.

In this family, Bangla is the language of communication, while at school, the medium of instruction is Assamese as A studies in an Assamese-medium government school. The children acquire Assamese through interactions with peer groups at school. The mother actively engages in her child's academic activities, often sitting with him to ensure focused reading. She reads out words in Assamese, and the child, in turn, reads from the book. The mother assigns writing tasks to A to develop his writing skills, providing assistance as and when needed. She also teaches A to do basic arithmetic operations. However, English learning is not actively facilitated due to the mother's difficulties in the language.

Despite the father's literacy in Assamese and English, most of his time is spent in selling vegetables in the market, which earns the family a livelihood. The mother takes the lead in overseeing the child's studies, emphasising that A should spend most of his time in studies rather than playing. Given the mother's limitations in English, A receives additional support through private tuitions at home. The tuition teacher assists in literacy development and helps with school assignments, compensating for the limited resources within the family for English language learning.

Case Study 2

In this section, the data acquired from the middle-class household were analysed and interpreted. It is important to mention that as there is no universally accepted definition of middle-class, the think tank defines a middle-class Indian as someone earning between ₹109,000 and ₹647,000 annually (based on 2020–21 prices), or between ₹500,000 and ₹30,00,000 annually in household terms (Rajora, 2023).

Socio-Economic Conditions of the Family

Family income

B's family has a monthly income of approximately ₹100,000 (approximately ₹12,00,000 annually in household terms). Both his parents are employed as teachers. His father works at a government secondary school, while his mother works at a government primary school. This suggests the family's financial stability and that it does not face any major economic constraint that might hinder the overall progress and well-being of the household.

Parental education

B's father is 46 years old. He is a postgraduate in English and proficient in three languages (Assamese, English and Hindi). He also has a degree in Bachelor of Education (B.Ed). He is adept at understanding, speaking, reading and writing in all three languages. His mother is 41 years old. She is a graduate in political science, and proficient in Assamese, English and Hindi in all linguistic skills. Thus, both his parents bring a solid educational background and linguistic versatility to the family.

Family structure

B's family comprises four members—father, mother and two children, with B being the youngest. The family's native language is Assamese, the regional language of Assam.

Literacy Difficulties among Parents

To assess the literacy skills of B's parent (mother) and determine if she faced any kind of difficulties, basic printed texts and a questionnaire were employed. Difficulties, in this context, refer to challenges in reading and writing simple sentences with comprehension in a familiar language, along with doing fundamental arithmetic operations. The questionnaire included activities in the order of easy to difficult across various domains of literacy abilities. The participant, i.e., the child's mother, was approached politely and encouraged to complete the assessments.

Reading skills

B's mother was provided with a paper containing basic written words that conveyed stories, with one half written in Assamese and the other in English. She read out the literature in both languages effortlessly and accurately. Besides, she exhibited a comprehensive understanding of the meanings of each English word presented in the material.

Writing skills

In assessing the participant's writing abilities, a questionnaire encompassing vocabulary, print and letter-related questions, was administered with two sections—one each in Assamese and English. The participant successfully achieved above-average scores in both the sections, indicating proficiency in both the languages.

Numeracy skills

In assessing the participant's numeracy skills, a questionnaire covering traditional number operations—addition, subtraction, multiplication and division—was administered in both Assamese and English sections. She successfully answered all questions in both the sections, demonstrating her abilities and skills. When asked about facing any kind of difficulties, the participant reported having none, indicating a confident and proficient understanding of the numerical concepts presented in the questionnaire.

The Role of Home Learning Environment in Children's Literacy Development

The significance of parental involvement in children's education was explored through an observation of the academic environment within the household. The data reveal a conducive print atmosphere, where the child (i.e., B) has access to a diverse range of books in languages like Assamese and English. This exposure is expected to significantly contribute to the enhancement of the child's literacy skills. The available print resources at home include textbooks, fictional literature, periodicals, newspapers, self-improvement literature, dictionaries and other supplementary materials catering to the child's educational needs. This rich array of resources reflects a supportive environment for the child's academic development.

The language of communication both at home and school is Assamese. The child attends a private Assamese-medium school, where he faces no linguistic challenges as he has already acquired proficiency in the language at home through interactions with family members. Both his mother and father assist him in school-related activities. So, the child does not seek private tuitions to enhance his literacy skills.

The data highlight a favourable digital learning environment at home, incorporating electronic devices, such as smartphones, tablets, television and laptop. The child uses his mother's smartphone to watch animated audiovisual content in Hindi, contributing to his language acquisition. Additionally, he engages with diverse rhymes on the smartphone. The home environment supports bilingual literacy practices, with the parents reading out materials in different languages. Adequate parental support is provided to enhance the child's literacy and numeracy skills, fostering academic achievement and exam success. The child also reads storybooks written in the Assamese language.

Discussion

The research investigated the impact of parents and the home learning environment on the literacy development of children, focusing on two families from different socio-economic backgrounds—lower middle-class and middle class, using case study method. The findings reveal that the lower middle-class family faced financial constraints and parental literacy difficulties that negatively affected the child's (A) education. Here, parental involvement in literacy development is observed to be insufficient compared to the middle-class family. The home learning environment for A, who comes from a lower middle-class family, is deemed inadequate, lacking essential reading materials and literacy resources crucial for his academic progress. It is recommended that parents like A's should aim to create a conducive learning environment for children. Community members, teachers and local NGOs can significantly contribute to this by providing the necessary literacy resources and support to children facing such challenging situations.

In contrast, B's parents exhibit a favourable socio-economic background. They do not face literacy difficulties as they could complete the tasks in the questionnaire. His parents actively contribute to the child's literacy development by providing constructive literacy resources, contributing to his academic strength. Their role in fostering a conducive home learning environment is deemed satisfactory. So, it can be concluded

that the child in this family benefits from a well-equipped environment with ample literacy advancement facilities and support.

Conclusion

This study underscores the pivotal roles of parenting and the home learning environment as critical contexts for developing essential competencies in young children, as supported by existing research (Niklas & Schneider, 2013 ; and Lehl, et al., 2020b). These factors play a significant role in shaping children's literacy development. The research reveals a disparity in the literacy learning environment between middle-class and lower middle-class families, with the former exhibiting a more favourable setting. In light of this finding, there arises a responsibility for schools, teachers, community members and NGOs to extend their support to children of lower middle-class families in improving their academic performance. This assistance can take various forms, such as providing literacy resources, educational support and guidance on creating a conducive home learning environment. Collaborative efforts from these external stakeholders can contribute substantially to improving the literacy development outcomes for children belonging to lower middle-class families. This highlights the potential for community engagement and collaborative initiatives to bridge the gap in literacy learning environments, and enhance opportunities for children in less privileged socio-economic contexts.

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