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UNDERSTANDING THE INFLUENCE OF HOME LEARNING ENVIRONMENT ON CHILDREN'S LITERACY DEVELOPMENT: A CASE STUDY BETWEEN TWO FAMILIES IN AN INDIAN VILLAGE

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Abstract

The "home learning environment" encompasses learning activities undertaken by parents and children at home, reflecting formal and informal values, beliefs, and attitudes. Napoli and Purpura (2018) conceptualize it as comprising the home literacy environment (HLE) and the home numeracy environment (HNE). This environment significantly influences children's literacy development. Adopting a qualitative research approach, this paper explores the dynamics of the home learning environment and its impact on literacy development in India. Findings emphasize the critical roles of parenting and HLE in developing essential competencies in young children. A disparity is noted between middle-class and lower-middle-class families, presenting an opportunity for community members, teachers, and NGOs to support the latter.

Keywords: home learning environment; children; literacy; literacy development

Introduction

Growth and development take place in the lives of children in multiple contexts, such as parenting and the home environment. They play a very 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, keeping in mind the context of my study, I use concepts of three different types of capitals that constrain parenting, such as economic capital—the kind of monetary resources available in the home; human capital—the educational qualifications parents have; and social capital—the number of relationships and linkages to other individuals. Their role in the development of children's literacy and numeracy is significant (Becker & Tomes, 1994).

In this study, I confine the definition of the term "literacy" to a person's ability or skill to read and write simple sentences with comprehension in a particular language they are familiar with and do the basic arithmetic opertations. This definition is considered a conventional and traditional definition of literacy, accepted and practised all across developing and underdeveloped countries. However, it may not be applicable in developed countries. For example, in a study, namely, the International Adult Literacy Survey (IALS), conducted in 1997 by the Organisation for Economic

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Cooperation and Development (OECD), 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. The literacy skills, such as reading, writing and doing basic arithmetic operations, can be acquired both at home and in educational settings, such as schools (Morin et al., 2016). Children who develop these skills early in life are better able to take advantage of learning opportunities later in life (Brooks-Gunn et al., 2014).

Home learning environment and its relation to children's literacy development

The term "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 shown in the provisions, resources, and socialisation experiences provided by parents to their children (Dearing and Tang, 2009). According to Napoli and Purpura (2018), the home learning environment is frequently conceptualized as consisting of two domains: the home literacy environment (HLE) and the home numeracy environment (HNE). It plays a very significant role in the literacy development of children (Silver et al., 2020; Mol & Bus, 2011; Scarborough & Dobrich, 1981). Studies reveal that the HLE is related to children's literacy development (Mol & Bus, 2011; Evans & Shaw, 2008; Scarborough & Dobrich, 1981) and the HNE to numeracy development (Daucourt et al., 2021; Susperreyguy et al., 2020; 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; Purpura & Reid, 2016).

In the research studies on HLE and HNE, activities in the home have been classified separately (Silver et al., 2020; Mol & Bus, 2011; Sénéchal & LeFevre, 2002; 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; 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. Major factors found in the study were family learning background, reading and numerical activities, and home resources; other factors were 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 to the development of literacy skills

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The term "familial risk (FR) group" is employed to characterize a cohort of children whose parents grapple with literacy difficulties (Salminen, 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 marginalized groups (Snowling & Melby-Lervåg2016). 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, 2021).

The magnitude of the challenge faced by children in the FR group is underscored by empirical evidence. Research by Puolakanaho et al. (2007), Van Bergen et al. (2014), Hulme et al. (2015), Torppa et al. (2015), and Esmaeeli et al. (2019) collectively demonstrates that children within the FR group are four to ten 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 the 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 our understanding of the nuanced dynamics between parental literacy difficulties and children's development within the FR group. Nevertheless, the available literature suggests a discernible influence of parental literacy challenges on children's development.

The interplay of hereditary factors within the FR group is a subject of contemplation. 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. Moreover, the role of parental literacy skills extends beyond a genetic influence, as evidenced by studies conducted by Hamilton et al. (2016), Dilnot et al. (2017), and Esmaeeli et al. (2018). These studies emphasize the interactive role of parental literacy skills with the home learning environment, thereby suggesting a multifaceted mechanism through which familial risk influences children's development.

A crucial implication of these dynamics is the potential detriment to the home learning environment for families within the FR 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 for their 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% of the total population, translating to 833 million individuals, resides in rural areas (Census of India, 2011). Within these village settings, a substantial number of families, particularly from marginalized communities,

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grapple with suboptimal socioeconomic conditions, encountering persistent financial challenges. This economic strain often becomes a formidable barrier, discouraging parents from prioritizing 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 in the high dropout rates among these children, as they are compelled to abandon their studies due to the absence of essential opportunities and support at home. The struggle faced by families in marginalized communities creates a cycle of educational disadvantage, perpetuating limited access to learning resources and hindering the development of literacy skills. In contrast, children hailing from highly educated families experience a markedly different reality. The conducive learning environment provided by such families becomes a catalyst for academic success. These children benefit from supportive parental involvement, educational resources, and a mindset that values and encourages learning. Recognizing this stark dichotomy, I aimed to unravel the intricate dynamics at play in the context of the home learning environment and their consequential impact on children's literacy development in India. Here, the objective raised three questions, in particular, that need to be addressed: How do the socioeconomic conditions of the families look? Do the parents have literacy difficulties? What role does the home learning environment play in children's literacy development?

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, I opted for a case study method. The in-depth examination focused on comparing findings derived from data collected from different families.

Participants

There were two children and their respected parents who took part in the study. The children were selected based on their previous year's academic performances in school, using the purposive sampling technique. Here, I mention that of these two children, one was from a lower-middle-class family whose academic performance is low compared to his peers in the school, and the other was from a middle-class family whose academic performance is better compared to his peers in the school. The former one studies in a government school, and the latter one studies in a private school. In this study, I restrict the term "parents" to the children's respective mothers. Both families lived in the same village, located in the Goalpara district of Assam, India.

Tools

The tools I used for data collection were a questionnaire, observation techniques, and semi-structured interviews. These tools helped me better delve into the socio-economic background of the families (a semi-structured interview schedule) and how their parenting behaviour and home environment affect their children's literacy development (a questionnaire, printed texts, observation techniques, and semi-structured interview schedules).

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Data analysis technique

To analyse and interpret the collected data, I used the thematic analysis technique, as it best suits the study considering its nature. Thematic analysis, a qualitative research method, entails identifying, analyzing, 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 collected data have been analysed and interpreted in two phases, aligning with the in-depth study of two families treated as individual cases.

CASE: 1

In this section, keeping my eyes on the research questions, I analysed and interpreted the data collected from the *lower-middle-class family*.

Socioeconomic conditions of the family

Family income

The child's family operates on a monthly income of approximately ten thousand Indian rupees, primarily sourced from the father, who works as a vegetable vendor. This income is stretched to cover all family expenses, encompassing household needs, medical costs, and the child's education. Because of this, the family struggles to save for the future. The child's mother is a homemaker, contributing to the family in non-monetary ways.

Parental education

The child's father completed education up to Grade 8 in a government Assamese medium school, possessing proficiency in Assamese, Bengali, and Hindi. He is capable of speaking Assamese and Bengali, and can read and write Assamese with comprehension, and English without comprehension. He is currently forty-two years old. The child's mother, having studied until Grade 6 in a government Assamese medium school, understands Assamese, Bengali, and Hindi, and can speak the former two languages. She can read and write Assamese with comprehension and English without comprehension. Her current age is thirty-five.

Family structure

The child's family comprises five members: the father, mother, two children, and grandmother. The child holds the position of the eldest son in the family. Communication within the family occurs in the Bengali language.

Literacy difficulties among parents

To assess the literacy skills of the child'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 basic arithmetic operations. The

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assessment utilized simple printed texts and a questionnaire encompassing tasks ranging from easy to difficult, covering various domains of literacy skills. The participant, the child's mother, was approached with courtesy and requested to cooperate in completing these tasks.

Reading skills

The participant was provided with a piece of paper containing simple printed texts, including stories in two languages—Assamese and English. The participant, when reading the Assamese texts, demonstrated fluent and comfortable reading. However, when reading the English texts, she encountered difficulty. Despite having knowledge of the English alphabet, she struggled to read the words fluently and faced challenges in comprehension.

Writing skills

In evaluating the participant's writing skills, a questionnaire encompassing items on vocabulary, print knowledge, and letter knowledge was employed. The questionnaire was divided into two sections—one in Assamese and another in English. The participant was instructed to respond to items in both sections. The data indicate that the participant attained a norm score in the Assamese section but fell short of achieving the same in the English section, reflecting challenges in her English writing skills.

Numeracy skills

To evaluate the participant's numeracy skills, a questionnaire featuring items on traditional number operations—addition, subtraction, multiplication, and division—was utilized. The questionnaire was presented in two sections, one in Assamese and the other in English. The participant was tasked with responding to items in both sections. The data indicate that the participant successfully answered items related to addition and subtraction in both sections. However, she faced challenges in the items pertaining to multiplication and division, indicating areas where her numeracy skills may need further development.

Role of home learning environment in their 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; 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 the child has school textbooks in the Assamese language at home, but there is a notable absence of mother-tongue based printed books or other materials like storybooks, newspapers, or magazines. When queried about the lack of storybooks with pictures, the parent expressed uncertainty, citing a lack of guidance on suitable book choices. This absence suggests a limited printed environment in the home that could enhance the child's literacy skills. However, it is noteworthy that the parent possesses an Android smartphone, occasionally used by the child for watching cartoon videos and listening to music.

In this family, Bengali is the language of communication, while the school language is Assamese, specifically in an Assamese-medium government school. The children acquire Assamese through

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interactions with peer groups and attending school. The mother actively engages in her child's academic activities, often sitting behind him to ensure focused reading. She reads Assamese words aloud, and the child, in turn, reads from the book. The mother assigns writing tasks to develop writing skills, providing assistance when needed. Basic arithmetic operations are also taught by the mother. 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, his time is occupied with selling vegetables in the market, the family's sole source of income. The mother takes the lead in overseeing the child's studies, emphasizing reading time over outdoor play. Given the mother's limitations in English, the child receives additional support through private tuition 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: 2

In this section, I analysed and interpreted the data acquired from the middle-class household while keeping my eyes on the research questions.

Socioeconomic conditions of the family

Family income

The child's family has a monthly income of approximately one lakh Indian rupees. Both parents are employed as teachers, with the father working at a government-funded secondary education institution, and the mother at a government-funded primary education institution. This financial stability suggests that the family does not face any significant economic constraints that might hinder the overall progress and well-being of the household.

Parental education

The child's father is a well-educated individual with a postgraduate degree in English, proficiency in three languages (Assamese, English, and Hindi), and a Bachelor of Education. He is adept at understanding, speaking, reading, and writing in all three languages, and he is currently forty-six years old. Similarly, the child's mother holds a Bachelor of Arts degree in political science, is trilingual in Assamese, English, and Hindi, and possesses proficiency in all language skills. She is forty-one years old. Both parents bring a solid educational background and linguistic versatility to the family.

Family structure

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

Literacy difficulties among parents

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To assess the literacy skills of the child's mother and determine if she faces difficulties, basic printed texts and a questionnaire were employed. Literacy difficulties, in this context, refer to challenges in reading and writing simple sentences with comprehension in a familiar language, along with fundamental arithmetic operations. The questionnaire included activities ordered from easy to tough across various domains of literacy abilities. The participant, the child's mother, was approached with courtesy and requested to collaborate on these assessments.

Reading skills

The participant, the child's mother, was provided with a sheet of paper containing basic written words that conveyed stories, with one half written in Assamese and the other in English. With ease, she demonstrated the ability to read literature in both languages effortlessly and accurately. Furthermore, she exhibited a comprehensive understanding of the meanings of each word presented in English within the material.

Writing skills

In assessing the participant's writing abilities, a questionnaire encompassing vocabulary, print, and letter-related questions was administered, with sections in both Assamese and English. The participant successfully achieved above-average scores in both sections, indicating proficiency in both 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. The participant successfully responded to all questions in both sections, demonstrating full capability. When queried about any difficulties, the participant reported having none, indicating a confident and proficient understanding of the numerical concepts presented.

Role of home learning environment in their 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 printing atmosphere where the child 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 in the home include academic textbooks, fictional literature, periodicals, newspapers, self-improvement literature, dictionaries, and other 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 in both the family and the school is Assamese. The child attends a private Assamese-medium school, where he encounters no linguistic challenges as he has already acquired proficiency in this language at home through interactions with family members. Both his

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mother and father assist him in school-related activities. Notably, the child does not seek private tuition from external sources to enhance his literacy skills.

The data highlight a favorable digital learning environment in the household, incorporating various electronic devices such as smartphones, tablets, televisions, and laptops. The child utilizes his mother's smartphone to access animated audiovisual content in Hindi, contributing to his language acquisition. Additionally, he engages with diverse rhymes on his smartphone. The home environment supports bilingual literacy practices, with parents reading 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 participates in reading storybooks written in the Assamese language.

Discussion

In this study, the impact of parenting and the home learning environment on the literacy development of children was investigated, focusing on two families from different socioeconomic backgrounds: lower-middle-class and middle class, using the case study method. The findings reveal that the lower-middle-class family faces financial constraints and parental literacy difficulties that negatively affect the child's education. Parental involvement in literacy development is observed to be insufficient compared to the middle-class family. In contrast, the latter has access to external academic support from teachers and academically proficient neighbors. The home learning environment for the lower-middle-class family is deemed inadequate, lacking essential reading materials and literacy resources crucial for the child's academic progress. It can be recommended that parents should aim to create a conducive learning environment for their children. Community members, teachers, and local NGOs can significantly contribute by providing necessary literacy resources and support to children facing challenging situations.

In contrast, the parents from the middle-class family (referred to as Case 2 in the study) exhibit a more favorable socioeconomic background compared to the lower-middle-class family. They do not face literacy difficulties, as evidenced by their ability to complete the tasks in the questionnaire. The parents actively contribute to the child's literacy development by providing constructive literacy resources, contributing to the child's academic strength. Their role in fostering a conducive home learning environment is deemed satisfactory. Consequently, 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 (HLE) as critical contexts for developing essential competencies in young children, as supported by existing research (Niklas & Schneider, 2013; Lehrl 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 the middle-class and lower-middle-class families, with the former exhibiting a more favorable setting.

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In light of this finding, there arises an opportunity for community members, teachers, and non-governmental organizations (NGOs) to extend their support to lower-middle-class families. The 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 literacy development outcomes for children in 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 socioeconomic contexts.

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