



# Home Learning Environment for Early Childhood Development Outcomes in Bangladesh

王, 可心

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## Summary of the Doctoral Dissertation

Name: 王 可心

Department: Department of Regional Cooperation Policy Studies

### Title of Dissertation

Home Learning Environment for Early Childhood Development Outcomes  
in Bangladesh ( Bangladeshにおける幼児期の発達成果に及ぼす家  
庭学習環境の影響)

(Name: 王 可心 No. 2)

## Summary of Dissertation

Early Childhood Development (ECD) is perceived as the continuous and interactive process of acquiring skills and abilities, aiming to foster children's holistic development across physical, social-emotional, cognitive, and motor development domains. These fundamental development abilities lay the foundation for lifelong learning and wellbeing across an individual's entire life. In low- and middle-income countries (LMICs), more than 250 million children under five years old are at risk of not reaching optimal early childhood development outcomes. To fulfill child developmental potential, in addition to the widely implemented center-based early childhood education (ECE) programs, facilitating a supportive home learning environment (HLE) has also been recognized as a critical approach. Accumulating previous studies have shown that HLE plays a particularly crucial role for at-risk children in the vulnerable context for promoting early childhood development outcomes, which might be an effective mechanism for narrowing inequalities among children with different backgrounds. Over children's preschool-age period (three to five years old), the dynamic characteristics of HLE have received researchers' attention.

The Government of Bangladesh (GoB) aims to promote ECD to reach children's full developmental potential irrespective of background. To fulfill children's literacy-numeracy and social-emotional development, the GoB has established free pre-primary education (PPE) and actively supported diverse ECE programs, following the well-facilitated educational policies. In addition, the importance of family involvement for children's early development has been addressed in the 2011 National Pre-Primary Curriculum Plan. Despite the emphasis on promoting children's developmental ability, a substantial number of preschool-age children still have potential developmental loss. Meanwhile, most caregivers lack the awareness and capability to facilitate a supportive HLE to stimulate optimal literacy-numeracy and social-emotional development outcomes. A significant disparity in the quality of HLE and literacy-numeracy and social-emotional development outcomes exists among

(Name: 王 可心 No. 3)

children with different backgrounds in gender, ECE experiences, and household socioeconomic status (SES). Moreover, Bangladesh has considerable regional variations in the quality of HLE and early child development outcomes. Many previous studies centering on caregiver-support programs in Bangladesh focus on children in the regional disadvantaged groups for finding a mechanism to offer better home support for children in the underprivileged groups.

In reviewing the previous studies on HLE and early childhood development outcomes, three debates have been identified for this study. First, there is debate on how the specific element of HLE drives the particular domain of child development outcomes due to the complex nature of HLE and diverse domains of early childhood development outcomes. Second, substantial studies have found that HLE and child development outcomes change over time. There are mixed findings on how household SES characteristics affect the changes of HLE and child development outcomes over time. Meanwhile, the role of children's ECE learning experiences contributing to the changes in HLE trajectories has received less attention. Third, there are mixed findings on which specific household SES characteristics moderate the relation between different components of HLE and child development outcomes. Meanwhile, the relationship between HLE and child development outcomes moderated by children's ECE experiences has not been examined extensively.

Based on the academic discussion and the country issues, this study: 1) investigates the relationship between HLE (overall and specific activities in the availability of learning and playing materials and caregiver-child interaction activities in literacy-numeracy and social emotion) and preschoolers' on-track development outcomes (overall and subdomains in literacy-numeracy and social emotion) in Bangladesh nationwide; 2) identifies the trajectories of the overall HLE and child literacy-numeracy and social-emotional development outcomes over the preschool-age period in Meherpur District, a target area receiving ECD intervention programs in Bangladesh due to its poor ECD status; and 3) examines the longitudinal influence of

(Name: 王 可心 No. 4)

specific HLE activities on preschoolers' literacy-numeracy and social-emotional development outcomes in Meherpur District. Meansowhile, this study further explores how children's gender, ECE experiences, household wealth, and maternal education play a role in the influence of HLE on child development outcomes and their respective changes of HLE and child development outcomes over the preschool-age period.

The hypotheses of this study are developed as follows: 1) All HLE activities (the availability of learning and playing materials and caregiver-child interaction activities in literacy-numeracy and social emotion) positively associate with preschoolers' on-track development outcomes (overall and subdomains in literacy-numeracy and social emotion) in Bangladesh nationwide; 2) Children experience the rising trend of HLE and child literacy-numeracy and social-emotional development outcomes over the preschool-age period in Meherpur District; and 3) All HLE activities positively and longitudinally correspond with preschoolers' literacy-numeracy and social-emotional development outcomes in Meherpur District. Meanwhile, children being female, having ECE experiences, and living in high SES households benefit more from the improvement of HLE and child development outcomes over time and the contribution of HLE to child development outcomes than their respective counterparts.

This study is guided by cultural capital theory illustrating the theoretical logic behind the influence of HLE on child development outcomes, where HLE is treated as an indicator of cultural capital. Cultural capital theory is multifaceted as cultural reproduction theory, cultural mobility theory, and cultural resource theory, which suggest different household SES beneficiary groups from the supportive HLE contribution to child development outcomes. This study has applied the probit model based on the national-sampled 2019 Multiple Indicator Cluster Surveys (MICS) dataset to test the first hypothesis. Based on the sample-based Early Years Preschool Programs (EYPP) longitudinal dataset from 2017 to 2019 in Meherpur District, the group-based trajectory model is utilized to test the second hypothesis on the changes of HLE, and the

(Name: 王 可心 No. 5)

multilevel growth curve model is used to test the second hypothesis on the changes of child development outcomes and the third hypothesis.

Responding to the first hypothesis, this study found supportive overall HLE promoted child overall on-track development status in Bangladesh. However, specific HLE activities did not consistently promote child on-track literacy-numeracy and social-emotional development, but the specific element of HLE was associated with the specific domain of on-track child development in Bangladesh. To clarify, the general process of HLE (learning/playing materials) remained a stable significant factor enhancing child on-track literacy-numeracy and social-emotional development. As for the domain-specific process of HLE, literacy-numeracy interaction activities significantly improved all the children's on-track literacy-numeracy development, but on-track social-emotional development only for children with highly educated mothers. Meanwhile, social-emotional interaction activities were not as significant as literacy-numeracy interaction activities promoting on-track child development.

In addition, children of different gender were favored by different elements of HLE stimulating on-track literacy-numeracy development, where females were advantaged more by literacy-numeracy interaction activities, and males were favored more by learning materials. Moreover, the social-emotional home interaction activities supported ECE enrollments more for on-track social-emotional development in Bangladesh nationwide than non-ECE enrollments. Furthermore, children in high SES households benefited more from the domain-specific process of HLE promoting their on-track literacy-numeracy and social-emotional development.

Responding to the second hypothesis, this study found that the continuous rising trend of HLE over the preschool-age period was not observed for all the sampled children in Meherpur District. Adversely, enormous variations were displayed in children's HLE trajectories, which differed in the intercept levels and patterns of change in increase, decrease, or remain stable in each interval of the two observation periods over time. A vast majority (76.8%) of children in the full sample experienced the

(Name: 王 可心 No. 6)

continuous improvement of HLE over time; however, a small portion (8.5%) of children experienced a rise-decline trend of HLE with the low-level HLE initially. Meanwhile, despite children being female and in low SES households experiencing the lower level of HLE in the early stage of the preschool-age period, benefiting from ECE experiences, most of them caught up with their respective counterparts as time progressed.

In addition, child literacy-numeracy and social-emotional development outcomes grew over time, which started at different levels and increased quadratically over the preschool-age period in Meherpur District. The growth rate continually increased for literacy-numeracy development but slightly decreased for social-emotional development as time progressed. Meanwhile, children being female and having ECE experiences started at a higher level of development outcomes and grew faster over time than their male and non-ECE enrollments counterparts. However, though children in low SES households showed lower literacy-numeracy and social-emotional development outcomes in the initial observation stage, their development outcomes increased faster over time than their counterparts in high SES households.

Responding to the third hypothesis, the longitudinal influence of the specific HLE activities on child literacy-numeracy and social-emotional development outcomes in Meherpur District showed the same pattern in general as in Bangladesh nationwide. However, some different findings were discovered in ECE and household SES group comparison. The social-emotional home interaction activities were more favorable of non-ECE enrollments for social-emotional development in Meherpur District. Children in low SES households benefited more from the domain-specific process of HLE to promote literacy-numeracy and social-emotional development outcomes in Meherpur District.

Cultural capital theory is applied to interpret the results of this study. The finding on the catch-up trend of HLE in low SES households with that in high SES households over time contradicts Bourdieu's perception on cultural capital in

(Name: 王 可心 No. 7)

proposing children in elite-class households inherit more cultural capital at home. This different finding might stem from the changing nature of cultural capital given the social and technological change over decades since the concept of cultural capital originated in France in the 1960s and 1970s. Meanwhile, the different household SES beneficiary groups from the supportive HLE contribution to child development outcomes between Bangladesh nationwide and Meherpur District indicate cultural capital functions in two different models in Bangladesh nationwide and Meherpur District. Cultural reproduction theory operates nationwide in Bangladesh, where children in high SES households were more advantaged in light of the distribution of unequal economic and educational resources. Meanwhile, cultural mobility theory functions in Meherpur District, where children in low SES households were more privileged since the GoB took a proactive role in minimizing class distinctions through implementing caregiver-support and ECE programs.

In conclusion, this study highlights the variability in HLE and child development outcomes growth and further addresses the critical role of HLE on early childhood development outcomes over the preschool-age period, from gender difference, ECE experiences difference, and socioeconomic diversity. The findings of this study show that caregivers are more likely to engage in the improvement of HLE, and child literacy-numeracy development grows faster than social-emotional development as time progresses over the preschool-age period. Meanwhile, HLE plays a supportive role in early childhood development outcomes; however, its contribution to preschoolers' social-emotional development is not as much as literacy-numeracy development. The domain-specific components of HLE are not only associated with early childhood development outcomes within their respective domains but also across domains. Moreover, children with ECE experiences reversely influence the engagement of caregivers in facilitating supportive HLE. High-quality ECE programs are essential for children in low SES households to compensate for the poor practice of social emotion cultivation at home. Furthermore, the function of cultural mobility theory in Meherpur



(Name: 王 可心 No. 8)

District shows the possibility of HLE being a mediator offsets the negative influence of low SES on preschoolers' development outcomes in Bangladesh with the government's support. Facilitating a supportive HLE is vital for early child development outcomes, particularly for children in low SES households in Bangladesh.

Name of Academic Adviser: Professor Keiichi Ogawa