Pre-Primary Teachers' Perceptions on Acquisition of Early Writing Skills of Alphabet Letters in Shinyanga Rural District, Tanzania

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Abstract
Individual letter formation is an essential aspect of early writing proficiency. This study investigated teachers' perceptions of the factors influencing pre-primary children's acquisition of alphabet letter writing skills. Specifically, the study sought to determine how teachers perceive child-level and home-environment aspects influencing children's acquisition of early alphabet letter writing skills. Bronfenbrenner's bioecological paradigm, the Process-Person-Context-Time model, guided the research. The research was conducted in the district council of Shinyanga in the Shinyanga Region. The investigation included 103 pre-primary education teachers who instruct preschool classes. A structured questionnaire was used to capture information, then analysed using SPSS version 23. Descriptive analysis for mean and standard deviation computations and variable correlations was performed using the Pearson Product-moment Correlation Coefficient. The study found that the child-level factors had higher mean scores than the child's family environment, indicating that the child-level factors significantly impact the early acquisition of alphabet letter writing for pre-primary children. The increase of within-child factors increases the child's home environment. The findings indicate that child-level factors and the child's home environment interact, consistent with the model used. Further research is needed on how home literacy activities improve alphabet letter writing for pre-primary children.

Keywords: *Letter writing skill, Pre-primary classes. Alphabet letters, Pre-primary Teacher*

Introduction

Early writing refers to children's first representations of spoken language via written symbols and letters (Puranik et al., 2014). Early alphabet letter-writing skills involve printing individual letters, whether uppercase or lowercase (Puranik & Lonigan, 2011; Ritchey, 2008; Puranik et al., 2013). Letter writing is one of the emergent literacy productive skills

children gain as they grow from non-readers and writers to autonomous readers and writers (Stern et al., 2018). It is about forming individual letters in preschool activities (Diamond et al., 2008; Levin et al., 2005). Letter-writing skill is the ability and knowledge a child acquires by attempting to retrieve the visual shape and names of alphabet letters (Puranic et al., 2011). Developing letter-writing abilities is a primary objective of early education (Puranik & Lonigan, 2014). Children with more of this talent in preschool learn to read quickly and better than children with fewer skills (Lonigan et al., 2008; Puranik & Lonigan, 2014). Additionally, children's ability to write alphabet letters represents their emerging orthographic knowledge (Ritchey, 2008). It strongly predicts writing fluency, spelling and compositional skills in the primary grades (Pruranic & Al Otaiba, 2012). Moreover, according to Torrance et al. (2020), most children enter primary school with a well-developed capacity to articulate their thoughts in speech but not in writing. Much progress has been made in research on the importance of early reading development and the consequences of failing to acquire early reading skills (Lonigan & Shanahan, 2009). Still, less is known about writing, particularly the early stages of writing development for preschool children. Less is known about factors influencing the acquisition of alphabet letter writing than the development of letter names and sounds (Puranik et al., 2014). The current study aims to assess factors influencing the acquisition of early letter-writing skills for public pre-primary children.

Guo (2018) investigated preschool children's letter-writing abilities and the link between early literacy skills in southwestern Ohio. Letter-writing abilities were substantially related to children's ages. Levin and Bus (2003), Puranik and Lonigan (2011), Worden and Boettcher (1990), and Puranik et al. (2013) all found results comparable to Guo's (2013). Worden and Boettcher (1990) further found that the type of alphabet letter influenced letter writing, as they used name printing and found children performing better on uppercase than lowercase letters. Pavelko, Lieberman, Schwarz, and Hans-Vaughn (2017) investigated the contribution of letter writing to children with language impairment. Language impairment was an element that affected the children's learning of early letter writing. The study is similar to Prunty and Barnett's (2020) study, where the Developmental Coordination Disorder (DCD) group had more errors in their letter forms than the Typical Disorder peers. Additionally, authors also found letter-writing production to be less consistent between tasks.

Puranik, Al Otaiba, Sidler, and Greulich (2014) conducted an exploratory investigation to examine the nature of writing instruction in kindergarten classrooms. The study found that letter-writing acquisition was influenced by kindergarten instructors' writing time, children's writing time, and classroom writing instruction. Also, the shape-copying of alphabet letters rather than through dictation by children varies according to influence or letter-writing accuracy (Marr & Cermak, 2002). Dhanya and Alameru (2019) found that conducive classroom environments, positive learners, teacher relationships, positive feedback, and constant motivation influence the acquisition of writing skills.

Further, Guo, Puranik, Kelce, Dinnesen, and Breit-Smith (2020) conducted questionnaire-based correlational research to investigate the association between reading and writing-related home behaviours and children's writing development. The study included 282 kindergarten children and their parents from the United States, South and Midwest. Each child did an identical direct writing assessment to acquire the necessary information, while parents filled out questionnaires on home literacy activities. According to the study, independent reading substantially influenced children's home letter writing. Adams, Soto-Calvo, Francis, Patel, Hartley, Giofre, and Simmons (2021) examined the home concerning children's writing skills at school. Ritchey (2008) declares that preschool home literacy environments are unrelated to higher-level translation and text production writing skills. In Tanzania, Mmasa and Anney (2016) found that standard one and two teachers had inadequate professional skills for teaching literacy. Other factors found by authors include pupils who do not have textbooks and were not following the teacher appropriately larger teacher-pupil ratio. Kigobe (2019), in Dar es Salaam, found weak associations between parental literacy support activities and children's literacy development. Furthermore, Ngussa and Mjema (2017) established that school administrative support, teaching methodologies and teacher and learner-related factors significantly influence pupils' mastery of the 3Rs. The three previous studies were conducted at the pre-primary education level, unlike the present work, which was conducted at the primary education level.

Previous research on early writing skills of alphabet letters has been examined in different contexts and populations. Issues related to letter-writing skills were captured and discussed, including the instruction used in developing letter-writing skills, language impairment and disorder, parents' role, and the factors influencing the early writing of alphabet

letters as related to the present study. However, little has been done in Tanzania and outside on the factors influencing letter writing to pre-primary teachers and their relationship. The present study aims to assess the within-child factors and child-home environment factors and how the two factors relate to the acquisition of early writing skills of alphabet letters in children.

Early Writing in Pre-primary Children in Tanzania

In Tanzania, early writing of alphabet letters is under the "Language, Communication and Literacy development" area, which is among six learning areas indicated in the pre-primary education curriculum (Ministry of Education Science and Technology, Curriculum and Syllabus for Pre-primary Education, 2016). The learning area enables the child to develop competencies in communication, which lays a foundation for early literacy skills that include mastering pre-reading and pre-writing. The mastering of pre-writing skills in children is through practising activities that build motor skills, practice using drawing and writing materials, practising pre-writing, constructing vowel and consonant shapes, tracing vowels and consonant shapes, writing vowels and consonant step by step in lowercase (Ministry of Education Science and Technology, Curriculum and Syllabus for Pre-primary Education, 2016). According to the Tanzanian pre-primary syllabus, lowercase is introduced at the pre-primary education level, while uppercase is raised when a child enters grade one. The issue of concern for the present study addresses factors that influence a child's acquisition of early writing skills in alphabet letters.

Theoretical Framework

A study adapted Bronfenbrenner's bioecological model, a theory of educational psychology that examines human development over time (Bronfenbrenner, 2005). The present study sought to determine the relationship between the environment and human development. It is founded on the understanding that child development is an interactive process between the individual child's characteristics and environment over time. Bronfenbrenner created the Process-Person-Context-Time (PPCT) paradigm in 1995, which serves as the theoretical foundation for this research study. Bronfenbrenner believed that development resulted from the interaction between the individual and the environment. This study used the Process-Person-Context-Time model to investigate the acquisition of early writing skills for alphabet letters by evaluating the child's characteristics and home environment.

The process

In theory, the process is the engine of development. Processes are daily interactions a child has between themselves and the environment (Bronfenbrenner & Morris, 2006). According to Trudge, Morova, Hatfield, and Karnic (2009), the process can result in either a struggle for the child in the environment or the advancement of the skills. In this study, the process involves a child whose characteristics of early literacy interact with their home environment to acquire alphabet letter writing.

Personal: The child

According to Bronfenbrenner's (1995) PPCT model, a person's perspective and beliefs are essential and influential in determining behaviour and development. In this regard, it involves the characteristics of a child, such as age, gender, and disability, which are involved in the child's development. Added factors regarding the present study include the child's knowledge of alphabet letter names, understanding of the alphabet, genetics, and the parents' abilities. Others are the giftedness and talent of a child, an initial alphabet letter in a child's name, and alphabet letters found in a child's name.

Contextual: The home

The home is a crucial aspect of children's emergent literacy abilities since it is where children first meet academic-related events, attitudes, and resources (Roberts et al., 2005). The family setting can lay the groundwork for future literacy growth and development. DeBaryshe, Binder, and Buell (2000) concluded that the home environment provides many positive literacy experiences that can impact future growth. The authors commented that a child becomes familiar with literacy materials, observes the literacy activities of others at home, and independently explores literate behaviours. Also, a child participates in collaborative reading and writing activities at home and benefits from the teaching strategies that family members use when engaging children in literacy tasks. This study, therefore, integrates contextual and personal variables to comprehend how these two factors influence the early acquisition of alphabet letter writing skills in children.

Present Study

This study was conducted in Shinyanga district, Shinyanga region, Tanzania. The purpose of the quantitative analysis was to investigate the acquisition of early writing skills for alphabet letters by children in public pre-primary schools. According to UWEZO (2017), between 2011 and 2015, the Shinyanga region was reported to be among the seven areas

showing low performance (32% in Kiswahili). However, district-wise, Shinyanga district (44%) has been doing poorly in literacy for children aged 3–9 years. The present study involved pre-primary teachers who teach children between the ages of 4 and 5 (URT, 2016). A survey by Gabas, Wood, and Cabell shows that teachers primarily focus on spelling and composition and less on handwriting. In addition, less is known about the factors contributing to acquiring alphabet letter-writing skills than about developing letter names and sounds (Puranik et al., 2016). Based on the significance of alphabet letter writing, the study sought to evaluate the perceptions of pre-primary teachers regarding the factors that influence the acquisition of early writing skills in alphabet letters. The investigation was guided by Bronfenbrenner's bioecological model, which encompasses the Process-Person-Context-Time model (PPCT). Further, the paper assessed the relationship between the perceived factors in acquiring early writing skills for alphabet letters by pre-primary children. The following null hypothesis guided the study:

There is no relationship between child-level factors and the home literacy environment factors in acquiring alphabet letter writing to pre-primary children.

Methodology

Participants

As shown in Table 1, 94 pre-primary teachers, 48 (51.1%) males and 46 (48.9%), were involved in the study.

Table 1: Demographic Characteristics of Participants in the Study

Variables	Categories of the Variable	N	%
Gender	Male	48	51.1
	Female	46	48.9
Total		**94**	**100**
Professionalism in early childhood	Certificate	1	1.1
	No professionalism	93	98.9
Total		**94**	**100**
Have you ever attended any seminar or workshop regarding teaching pre-primary classes	Yes	35	37.2
	No	59	62.8
Total		**94**	**100**

Field Data (2021)

Table 1 also presents pre-primary teachers' status regarding teaching and learning. The table shows that the pre-primary teachers in Shinyanga

District Council teach without having basic knowledge of pre-primary children.

Procedures

The present study used a quantitative method with descriptive and correlational designs. The study used purposive sampling to select in-service public pre-primary teachers from public primary schools as they are the ones who instruct the pre-primary classes in the primary schools on the required competencies. To recruit pre-primary teachers for the study, they were selected from 136 primary schools (BEST, 2020) through a random sampling process. Random sampling was employed to increase the likelihood of including all districts (26) and primary schools (136) in the Shinyanga District Council, where pre-primary classes are located in the investigation. According to the DEO in Shinyanga district (2021), each primary school (136) has one pre-primary class and one pre-primary teacher.

Consequently, the total number of pre-primary teachers is N = 136. If a designated teacher is absent, another teacher assumes responsibility for the class. According to Krejcie and Morgan's (1970) table of sample size for a finite population, the sample size for N = 136 is 103 involved in the study.

Measures

The participants in this quantitative research filled out questionnaires. The closed-ended questionnaire included demographic data about pre-primary teachers and children in the Shinyanga study district and factors influencing early alphabet letter writing development. The study used child-level elements from Puranik et al. (2014) for the questionnaire. The section discussing the influence of home environment factors on letter-writing skills was constructed following a comprehensive review of pertinent literature. The bioecological development model matches the factors (Bronfenbrenner & Morris, 2007). Nine of the 103 questionnaire recipients did not respond. Ninety-four questionnaires were returned; 48 (51.1%) were male, and 46 (48.9%) were female. Pre-primary teachers responded to statements on factors affecting children's alphabet letter writing on a five-point Likert scale. The scale intervals include: 5 means "strongly agree," 4 indicates "agree," 3 suggests "don't know," 2 shows "disagree," and 1 indicates "strongly disagree." Table 1 uses a 5-point Likert scale for criteria.

Table 1: Scoring Criteria Values of 5 Points Likert Scale

Scale	Value	Range
Strongly Disagree	1	1.00-1.80
Disagree	2	1.81-2.60
Not Agree	3	2.61-3.40
Agree	4	3.41-4.20
Strongly Agree	5	4.21-5.00

Adopted from Sözen & Ufuk (2019)

Analysis And Presentation of the Findings

The analysis was conducted using SPSS version 23. Descriptive analysis was carried out by computing the means and standard deviations of the statements for each variable**. The Pearson product-moment correlation coefficient was used to assess the strength and direction of the linear relationship between two variables. The correlation coefficient was employed to ascertain** the level of relationship between *within-child factors and home factors* and the directions of teachers' perceptions.

This section begins by describing the characteristics of pre-primary children, as reported by the pre-primary teacher.

Table 2: Characteristics of Children in the class and tribes reported

Statements on the characteristics	Values	Response	
		N	%
Number of children Sukuma by a tribe in the pre-primary class	10-20	2	2.1
	21-30	1	1.1
	31-40	2	2.1
	41-50	1	1.1
	51-60	6	6.4
	61-70	2	2.1
	71-80	1	1.1
	81-90	2	2.1
	91+	2	2.1
	All are Sukuma	75	79.8
TOTAL		**94**	**100**
Number of children in a single pre-primary class	10-20	6	6.4
	21-30	5	5.3
	31-40	6	6.4
	41-50	7	7.4
	51-60	20	21.3
	61-70	6	6.4
	71-80	7	7.4
	81-90	11	11.7
	91-100	6	6.4
	100+	20	21.3
TOTAL		**94**	**100**

Source: field data (2021).

Pre-primary teachers reported the demographic characteristics of the children they teach, presented in Table 2. Most 75 (79.8%) pre-primary teachers said most children in their classes are Sukuma by tribe. Sukuma is their mother tongue, and Kiswahili is their second language. Children, therefore, must gain alphabet letter writing skills in their second language rather than their first language. Furthermore, most 20 (21.3%) pre-primary school teachers had 51 to 60 children in a single class, while the remaining 20 (21.3%) were noted to have more than 100 children in a single class. It is recommended that teacher-student ratios in pre-primary schools in Tanzania should be 1:25 (URT 2014; 2016). The study suggests that a pre-primary teacher teaching a large class of children cannot manage the class and teach effectively.

Table 3. **Child level factor**

Child-level Factors	**N**	**M**	**SD**
Child-level Factors			
Age of a child	94	4.18	1.32
Gender of a child	94	4.19	1.32
Knowledge of alphabet letter Name	94	4.24	1.26
Knowledge of alphabet	94	4.24	1.29
Genetics and parents' abilities	94	4.25	1.21
Knowledge of alphabet order	94	4.26	1.24
Language impairment of a child	94	4.27	1.24
The Gifted or the Talent of a Child	94	4.32	1.14
An initial alphabet letter in a child's name	94	4.48	1.01
Alphabet letters in a child's name	94	4.81	.58

Source: Field data (2021);
Scale: 5-Strongly Agree, 4-Agree, 3- I don't know, 2- Disagree, 1 – Strongly Disagree

Table 3 shows the within-child factors that influence the acquisition of early letter-writing skills for alphabet letters in children with the mean scores M=4.18, SD=1.32 to M=4.81, SD=.58. The pre-primary teachers agreed only on two factors' age *of a child'* (M=4.18, SD=1.32) and '*gender of a child'* (M=4.19, SD=1.32) in influencing acquisition of early alphabet letter writing. The statement "the gifts and talents of the child" had a higher mean score (M = 4.32, SD = 1.14). The mean scores for "*alphabet letter in a child's name*" (M = 4.81, S.D. =.58) and "An *initial alphabet letter in a child's name*" (M = 4.48, SD =1.01) had higher mean scores. The findings imply that gifted and talented children have a greater influence on acquiring alphabet letter writing skills than normal children. Also, the acquisition of early writing of the alphabet is influenced if the alphabet letters are present in their name. Moreover, the gender and age

of a child did not have a greater impact on the acquisition of alphabet letter writing in children.

Table 5: Home Environment Surrounding a Child

Statements of the home environment surrounding a child	N	M	SD
The home environment surrounding a child factor			
Social Economic Status of Children's Family	94	4.64	.82
The language used at home	94	4.72	.67
Children experience a rich language environment with a lot of books and written materials at home	94	4.72	.72
Parent alphabet letter activities, support, and instruction in children's early years at home	94	4.74	.62

Source: Field data (2021);
Scale: 5-Strongly Agree, 4-Agree, 3- I don't know, 2- Disagree, 1 – Strongly Disagree

Table 4 indicates that the mean scores of a child's home environment varied from M = 4.64, S.D. =.82, to M = 4.74, S.D. =.62. The findings demonstrate that pre-primary teachers strongly agreed on all claims that had a significant influence on children's acquisition of alphabet letter writing. Parental support (M = 4.74, S.D. =.62) is essential for acquiring early writing skills for alphabet letters.

Table 6: Correlations of the variables, means, and standard deviations of study variables.

	1	2
Within - child factor		
The home environment surrounding a child	.451**	.
M	43.18	18.84
SD	9.02	2.55
Cronbach's alpha	.92	.91
N		94

Note. ** p < .01 Pearson correlations were calculated between all variables.

Table 5 shows the strength and direction of factors influencing the acquisition of early writing skills for alphabet letters. The table reveals a statistically significant positive correlation between factors influencing the acquisition of early writing skills for alphabet letters, so the null hypothesis was rejected. Child-level factors have a moderate magnitude (r (92) =.451**, p < .01) relationship with the home environment surrounding a child. It implies that changes in child-level factors relate to the same changes in the home environment surrounding a child. Furthermore, the table shows the mean scores of the factors influencing the acquisition of early writing skills for alphabet letters. The child-level factors (M = 43.28, SD = 9.02) had higher mean scores than the home

environment surrounding a child (M = 18.84, SD = 2.55). The findings imply that the pre-primary teachers strongly agree on within-child factors as the most critical factor influencing the acquisition of early alphabet letters.

Discussion of the Findings

The findings of this study highlight the significant role that child-level factors play in shaping the early development of alphabet letter writing skills among children. The findings of the present study align with previous research by Cameron et al. (2012), Puranik et al. (2014), Puranik and Lonigan (2012), Carlson et al. (2013), and Puranik et al. (2018), of whom underscored the importance of child-specific factors in fostering proficiency in letter-writing skills during early childhood. In contrast to the focus of this study on child-level factors influencing alphabet letter writing, other studies have identified additional influential factors. For instance, research by Carlson et al. (2013) and Cameron et al. (2012) has highlighted the role of fine motor skills, which are crucial for the physical act of writing letters. Axelsson et al. (2020) have also emphasised the significance of children's initiative in engaging with writing activities, suggesting that self-directed participation in writing tasks contributes to skill development. Furthermore, beyond letter-writing skills, child-level factors have been found to impact other aspects of emergent literacy, such as alphabet knowledge (Drouin et al., 2012; Heilmann et al., 2018). The two studies indicate that older children generally exhibit greater proficiency in alphabet knowledge than younger children, indicating a developmental progression in foundational literacy skills. Together, these findings underscore the multifaceted nature of early literacy development and highlight the complex interplay between child-level characteristics, environmental influences, and specific skill domains within the broader context of emergent literacy. The current study contrasts with the perspectives of Guo et al. (2020), Farver et al. (2013), and Kim et al. (2015), who view home literacy practices as a comprehensive framework encompassing all literacy-related experiences. Farry-Thorm and Treiman (2020) highlight that parents often emphasise letter writing in their interactions with children at home. They assist in learning activities by gauging what children can accomplish independently and what requires their guidance, a concept central to Vygotsky's Zone of Proximal Development. In contrast to the findings of this study, Kigobe (2019) discovered weak links between parental literacy support activities and children's literacy outcomes.

Theoretical contribution to the study.

The current study aligns with Bronfenbrenner's bioecological model, specifically the Process-Person-Context-Time framework. This model illustrates interactions between child-level factors and contextual influences, particularly those within the home environment. The study demonstrates that improvements in child-specific factors correspond with enhancements in the home environment. It emphasises the interconnectedness between a child's literacy-related characteristics and home context, moving away from viewing the child and context as separate entities (Trudge et al., 2009). Burwell (2021) asserts that parent-child relationships are crucial in shaping children's development and learning. Parents, their children's primary educators, actively support literacy development at home (Tompkins, 2003).

Conclusion

This research significantly enhances our understanding of the factors influencing early acquisition of alphabet letter writing skills among preschool-aged children. The study underscores the critical role of child-specific factors in acquiring these foundational writing skills during the pre-primary years. Specifically, it highlights a positive correlation between child-level attributes and the quality of the home environment, both of which play pivotal roles in fostering early alphabet letter-writing abilities. Moreover, the study identifies demographic variables such as class size and mother tongue as influential factors affecting children's proficiency in alphabet letter writing. These findings suggest that the number of peers in a classroom and the primary language spoken at home can significantly shape a child's proficiency in alphabet letter writing skills.

Recommendations

*The study recommends better ways to acquire early alphabet letter writing in pre-primary education educational stakeholders. P*eople in a child's immediate environment, such as parents or guardians and relatives, are responsible for encouraging and inspiring children to engage in literacy-related activities. Pre-primary teachers and parents should work hand in hand to make sure that emergent literacy skills, particularly the acquisition of early writing skills for alphabet letters, are enhanced through positive interaction. There should be a follow-up on the child's home environment that promotes literacy development and aligns with Tanzania's pre-primary curriculum 2016. Furthermore, the study also recommends further studies; firstly, research needs to be carried out on

how home literacy activities improve alphabet letter writing for children. Secondly, further research on available home literacy resources that influence early letter-writing skills is needed. Third, further research needs to be carried out on parents' role in enhancing pre-primary children's emergent literacy skills.

References

Adams, A. M., Soto-Calvo, E., Francis, H. N., Patel, H., Hartley, C., Giofrè, D., & Simmons, F. R. (2021). Characteristics of the preschool home literacy environment which predict writing skills at school. *Reading and Writing*, *34*, 2203-2225.

Al Otaiba, S., Kosanovich, M. L., & Torgesen, J. K. (2012). Assessment and instruction in phonemic awareness and word recognition skills. In A. G. Kamhi & H. W. Catts (Eds.), *Language and reading disabilities* (pp. 112–114).

Atwell, N. (1987). In the middle: Writing, reading, and learning with adolescents. Portsmouth, NH: Heinemann. Retrieved from https://eric.ed.gov/?id=ED315790

Axelsson, A., Lundqvist, J., & Sandberg, G. (2019). Influential factors on children's reading and

writing development: the perspective of parents in a Swedish context. *Early Child Development and Care*, *190*(16), 2520–2532. https://doi.org/10.1080/03004430.2019.1590348

Burwell, J. M. (2021). *Preschool Teachers' Perspectives on Engaging Fathers in Their Child's Education* (Doctoral dissertation, Walden University). Retrieved from https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=12435&context=dissertations

Byrne B, Coventry WL, Olson RK, Samuelsson S, Corley R, et al. (2009). Genetic and environmental influences on aspects of literacy and language in early childhood: Continuity and change from preschool to Grade 2. *J Neurolinguistics* 22: 219–236. Retrieved from https://psycnet.apa.org/record/2009-03094-003.

Cabell, S.O., Tortorelli, L.S., Gerde, H.K (2013). How do I write? Scaffolding Preschoolers Early Writing skills. *Reading Teacher*. 66 (8),650-659. DOI:10.1002./TRTR. 1173. Retrieved from https://eric.ed.gov/?id=EJ1009321.

Cameron, C. E., Brock, L. L., Murrah, W. M., Bell, L. H., Worzalla, S. L., Grissmer, D., & Morrison, F. J. (2012). Fine motor skills and executive function both contribute to kindergarten achievement. *Child Development*, 83(4), 1229-1244.

Dhanya, M., & Alamelu, C. (2019). Factors influencing the acquisition of writing skills. *International Journal of Innovative Technology and Exploring Engineering*, *8*(7), 259-263.Retrieved from https://www.ijitee.org/wp-content/uploads/papers/v8i7c2/G10590587C219.pdf.

Diamond, K. E., Gerde, H. K., & Powell, D. R. (2008). Development in early literacy skills during the pre-kindergarten year in Head Start: Relations between growth in children's writing and understanding of letters. *Early Childhood Research Quarterly*, *23*(4), 467-478. Retrieved fromhttps://www.sciencedirect.com/science/article/abs/pii/S0885200608000501

Farry-Thorn, M., Treiman, R., & Robins, S. (2020). Letter teaching in parent-child conversations. *Early Childhood Research Quarterly*, *53*, 161-170. https://doi.org/10.1016/j.ecresq.2020.03.008.

Guo, Y., Breit-Smith, A., Hall, A. H., & Biales, C. (2018). Exploring preschool-age children's ability to write letters. *Journal of Research in Education*, *28*(2). Retrieved from https://files.eric.ed.gov/fulltext/EJ1201624.pdf

Guo, Y. Puranik C., Kelcey, B., Sun, J., Dinnesen M.S & Breit-Smith, A (2020): The Role of Home Literacy Practices in Kindergarten Children's Early Writing Development: A One-Year Longitudinal Study, *Early Education, and Development*. 32(2), 209-227.DOI: 10.1080/10409289.2020.1746618. Retrieved from https://files.eric.ed.gov/fulltext/ED605982.pdf

Graves, D. H. (1983). Writing: Teachers and children at work. London, UK: Heinemann

Educational Books. Retrieved from https://eric.ed.gov/?id=ED234430.

Levin, I., Both–De Vries, A., Aram, D., & Bus, A. (2005). Writing starts with own name writing:

From scribbling to conventional spelling in Israeli and Dutch children. *Applied Psycholinguistics*, 26(3), 463-477. https://doi.org/10.1017/S0142716405050253

Lonigan, C. J., Farver, J. M., Nakamoto, J., & Eppe, S. (2013). Developmental trajectories of preschool early literacy skills: a comparison of language-minority and monolingual-English children. *Developmental Psychology*, *49*(10), 1943.

Marr, D., & Cermak, S. (2002). Predicting handwriting performance of early elementary students with the developmental test of visual-motor integration. *Perceptual and motor skills*, *95*(2), 661-669. Retrieved from https://pubmed.ncbi.nlm.nih.gov/12434865/

Pelatti, C. Y., Piasta, S. B., Justice, L. M., & O'Connell, A. (2014). Language- and literacy-learning Opportunities in early childhood classrooms: Children's typical experiences and within-classroom variability. *Early Childhood Research Quarterly, 29*(4), 445. https://doi.org/10.1016/j.ecresq.2014.05.004. Retrieved from https://www.sciencedirect.com/science/article/abs/pii/S088520061400057X Puranik, C. S., Petscher, Y., & Lonigan, C. J. (2013). Dimensionality and reliability of letter writing in 3-to 5-year-old preschool children. *Learning and individual differences, 28*, 133-141.Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4557880/

Puranik, C.S, Lonigan, C.J (2011). From scribbles to scrabble: Preschool children's developing knowledge of written language. Reading and Writing: *An Interdisciplinary Journal*. 2011; 24(5):567–589. https://doi.org/10.1007/s11145-009-9220-8. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3309424/

Puranik CS, Petscher Y, Lonigan CJ. (2014). Learning to write letters; Examinations of students and letter factors. *Journal of Experimental Child Psychology*, 128, 152-170. https://doi.org/10.1016/j.jecp.2014.07.009. Retrieved from https://psycnet.apa.org/record/2014-38517-011

Puranik, C., Al Otaiba, S., Sidler, J., & Greulich, L. (2014). Exploring the amount and type of Writing instruction during language arts instruction in kindergarten classrooms. *Reading and Writing*, 27(2), 213-236. https://doi.org/10.1007/s11145-013-9441-8. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3932498/.

Puranik, C.S, Lonigan, C.J, & Kim, Y (2011). Contributions of emergent literacy skills to name Writing, letter writing, and spelling in preschool children. *Early Childhood Research Quarterly*. 2011; 26(4):465–474. https://doi.org/10.1016/j.ecresq.2011.03.002. https://pubmed.ncbi.nlm.nih.gov/21927537/

Puranik, C.S & Lonigan, C.J (2014). Emergent writing in preschooler: Preliminary evidence for a theoretical framework. *Journal of List*, 49 (4), 453-467. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4194065/

Ritchey, K. D. (2008). The building blocks of writing: Learning to write letters and spell words. *Reading and Writing: An Interdisciplinary Journal, 21*(1-2), 27–47. https://doi.org/10.1007/s11145-007-9063-0. Retrieved from https://psycnet.apa.org/record/2008-05161-003.

Sandberg, G. (2012). På väg in i skolan. *Om villkor för olika barns delaktighet och skriftspråkslärande. [Getting ready for school.*

About the conditions for each child's participation and written language learning]. (Doctoral dissertation). Uppsala University, Uppsala. http://www.divaportal.org/smash/record.jsf?pid=diva2%3A561240&dswid=5984.

Scanlon, D. M., Gelzheiser, L. M., Vellutiona, F. R., Schatschneider, C., & Sweeney, J. M. (2008). reducing the incidence of early reading difficulties: Professional development for classroom teachers vs. direct interventions for children. *Learning and Individual Differences*, 18(3), 346–359. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2659758/.

Skibbe, L. E., Bindman, S. W., Hindman, A. H., Aram, D., & Morrison, F. J. (2013).

Longitudinal relations between parental writing support and preschoolers' language and literacy Skills. *Reading Research Quarterly*, 48(4), 387–401.https://doi.org/10.1002/rrq.55. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4102606/

Treiman, R., & Kessler, B. (2003). The role of letter names in the acquisition of literacy. *Advances in child development and behavior*, *31*, 105-138. Retrieved from https://pubmed.ncbi.nlm.nih.gov/14528660/

Scanlon, D. M., Gelzheiser, L. M., Vellutino, F. R., Schatschneider, C., & Sweeney, J. M. (2008).

Reducing the incidence of early reading difficulties: Professional development for classroom teachers versus direct interventions for children. *Learning and individual differences*, *18*(3), 346-359. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2659758/

Sözen, E., & Güven, U. (2019). The Effect of Online Assessments on Students' Attitudes towards Undergraduate-Level Geography Courses. *International Education Studies*, *12*(10), 1-8. Retrieved from https://eric.ed.gov/?id=EJ1228288.

Stern, J. M., Dubeck, M. M., & Dick, A. (2018). Using Early Grade Reading Assessment

(EGRA) data for targeted instructional support: Learning profiles and instructional needs in Indonesia. *International Journal of Educational Development*, *61*, 64-71. Retrieved from https://www.sciencedirect.com/science/article/abs/pii/S0738059317301293

Worden, P. E., & Boettcher, W. (1990). Young children's acquisition of alphabet knowledge.

Journal of Reading Behavior, 22(3), 277–295 https://doi.org/10.1080/10862969009547711 Retrieved from https://journals.sagepub.com/doi/10.1080/10862969009547711

Yin L,&Treiman R. Name writing in Mandarin-speaking children. *Journal of Experimental Child Psychology*. 2013;116:199–215. https://doi.org/10.1016/j.jecp.2013.05.010. Retrieved from *https://pubmed.ncbi.nlm.nih.gov/23831903/*

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