

PARENTING APPROACHES: ENHANCING PRE-LITERACY AND NUMERACY SKILLS IN EARLY CHILDHOOD

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Abstrak

This study will analyse how parenting programs improve pre-literacy and numeracy skills in early childhood. This study uses a case study approach, where interviews, observations and documentation are used as media for data collection. Data are analysed in stages, from data display, data reduction, and concluding with conclusion drawing. The results of the study show that parenting programs in improving pre-literacy and numeracy skills in early childhood are carried out through providing stimulation through daily activities, building a supportive learning environment, an individualised approach in learning, and increasing family involvement in children's education. This study offers implications for the importance of parenting programs in pre-literacy and numeracy skills in early childhood through daily stimulation, a supportive learning environment, an individualised approach, and family involvement. These findings provide insight into developing more structured and relevant parenting programs to support optimal child development at home and school.

Kata kunci: Parenting Program, Pre-Literacy, Numeracy, Family Involvement

Abstract

Penelitian ini bertujuan untuk menganalisis tentang Bagaimana program parenting dalam meningkatkan keterampilan literasi pra-aksara dan dan numerasi pada anak usia dini. Penelitian ini menggunakan pendekatan studi kasus, di mana wawancara, observasi dan dokumentasi dijadikan sebagai media untuk pengumpulan data. Data dianalisis secara bertahap, yang dimulai dari display data, reduksi data dan penarikan kesimpulan. Hasil penelitian bahwa program parenting dalam meningkatkan keterampilan literasi pra-aksara dan dan numerasi pada anak usia dini dilakukan melalui; pemberian stimulasi melalui kegiatan sehari-hari, membangun lingkungan pembelajaran yang mendukung, pendekatan individualisasi dalam pembelajaran, peningkatan keterlibatan keluarga dalam pembelajaran anak. Penelitian ini memberikan implikasi tentang pentingnya program parenting dalam keterampilan literasi pra-aksara dan numerasi anak usia dini melalui stimulasi sehari-hari, lingkungan pembelajaran yang mendukung, pendekatan individualisasi, dan keterlibatan keluarga. Temuan ini memberikan wawasan bagi pengembangan program parenting yang lebih terstruktur dan relevan untuk mendukung perkembangan anak secara optimal di rumah dan sekolah.

Keywords: Program Parenting, Literasi Pra-Aksara, Numerasi, Keterlibatan Keluarga

INTRODUCTION

Pre-literacy and numeracy skills are crucial in early childhood, as they form the foundation for future academic and cognitive development (Dierkx, van de Rijt, Hessen, van Luit, & van Viersen, 2025; Ne'eman & Shaul, 2023; Tokuhamma-Espinosa, 2025). Children who have strong literacy and numeracy skills tend to adapt more easily to formal education environments and achieve good academic success (Conica, Nixon, & Quigley, 2023; Dierkx et al., 2025; Wardhani & Wiarsih, 2024). This research is vital because it will help improve understanding of how parenting approaches can contribute to this development. By strengthening these skills, parents can play a key role in shaping the foundation of their children's education (Kumar & Behera, 2022; Laxman, 2024; Lestari & Yusuf, 2022). Evidence suggests that parental involvement in their children's education can accelerate the development of literacy and numeracy skills (Kamal et al., 2022). Therefore, this research has the potential to significantly impact society by providing clearer insights and guidance on the role of parents in supporting early childhood development.

Although many early childhood education programs are implemented in Indonesia, not all children have equal access to quality education, especially in strengthening literacy and numeracy skills. Many parents are not fully aware of the importance of their involvement in supporting their children's literacy and numeracy development. The main problem faced is parents' lack of understanding about effective ways to develop these skills at home and low awareness of the importance of accompanying children in the learning process outside the school environment. This lack of knowledge can hinder children from developing basic skills that are very important for further education. Therefore, research is needed to identify how the right parenting approach can improve pre-literacy and numeracy skills in early childhood.

The phenomenon in the field shows that in several areas, including Talun PKK Kindergarten, Ponorogo, there is still a gap between what is taught in schools and the skills that children at home can apply. Although schools provide formal education that supports literacy and numeracy skills, many children do not get enough support at home. Many parents do not yet know the teaching techniques that can be done at home to strengthen these skills. In addition, some parents are also hampered by daily activities that make them less involved in their children's learning process. On the other hand, some parents are very active and try to teach their children literacy and numeracy skills even without adequate support from schools or structured parenting programs. This creates an imbalance in the development of these skills among children.

Previous studies have shown that parenting approaches significantly impact the development of early childhood literacy and numeracy (Douglas & Rittle-Johnson, 2024; Hossain et al., 2023; Lestari & Yusuf, 2022). Several studies have revealed that parental involvement in reading, writing, and playing with numbers with children can significantly improve these skills (Çaliskan & Ulas, 2022; Sengonul, 2022). For example, research by

Almaghfiroh et al. (2024) shows that interactions between parents and children in reading activities can accelerate the development of children's language skills. However, despite the supporting evidence, many parents still do not know effective ways to support the development of children's literacy and numeracy. Therefore, this study is essential to identify the most effective parenting approaches in the context of early childhood, especially in Talun PKK Kindergarten, Ponorogo, which is the focus of this study.

Previous studies have also shown that parenting programs focusing on numeracy skills development at home can help children acquire the basic skills needed for further mathematics education (Fauziah, 2022; Maharbid et al., 2024). For example, a study by Destiawati & Dhika (2024) found that parents who teach their children fundamental concepts of numbers and geometric shapes at home can accelerate children's numeracy development. However, many previous studies have not specifically examined the effects of structured parenting programs in local communities, such as those in TK PKK Talun, Ponorogo. This is a gap that needs to be filled by this study. The contribution of this study will provide insight into practical ways for parents to improve children's literacy and numeracy skills, as well as provide useful guidance that can be applied at the local level.

This study brings novelty by combining a more in-depth qualitative approach to how the parenting program at TK PKK Talun, Ponorogo, contributes to improving early childhood literacy and numeracy skills. By exploring the direct experiences of parents, teachers, and children, this study focuses on a more holistic contextual understanding of the learning process at home and school. This is different from many previous studies that focus on larger theories or programs without considering local factors that can influence the program's success. Therefore, this study is essential to provide a more accurate picture of the specific needs in this area, which can be adapted to improve and expand parenting programs in other areas. The problem of this research is how the parenting approach applied at TK PKK Talun, Ponorogo, can improve pre-literacy and numeracy skills of early childhood. This study explores the parents' experiences in supporting the development of their children's literacy and numeracy at home more deeply, as well as identifying factors that help or hinder the process. Thus, this study will significantly contribute to understanding how parenting programs can be improved or adjusted to improve the quality of early childhood education in the community.

Based on this study, it is expected that effective parenting strategies can be found to improve early childhood literacy and numeracy skills. This approach will identify the influence of social, cultural, and economic factors in parenting patterns related to children's basic skills. In addition, this study also contributes to developing guidelines for parents and educators to create a better learning environment at home. By providing practical knowledge based on evidence, this study can improve the quality of early childhood education and positively impact children's future development.

METHOD

This study uses a qualitative research design with a case study approach (Creswell, 2012; Rofiki et al., 2025). This design is based on the need to understand in depth the phenomena that occur in a specific context, namely the influence of parenting programs on the development of pre-literacy and numeracy skills in early childhood at TK PKK Talun, Ponorogo. Case studies allow researchers to explore the experiences and perspectives of parents, teachers, and children in a more focused and detailed context. With this design, researchers can obtain more contextual and comprehensive information regarding how the parenting approach applied at Talun PKK Kindergarten impacts the development of children's literacy and numeracy skills. This research was conducted at TK PKK Talun, Ngebel, Ponorogo, which was chosen because this school has an active parenting program and focuses on developing fundamental skills in early childhood. This location also has a diversity of parenting approaches that parents can apply to provide different insights. The selection of TK PKK Talun as a research location aims to understand how parenting programs at the local level can contribute to the development of children's pre-literacy and numeracy literacy, as well as provide a deeper picture of the challenges and successes experienced by parents and teachers in supporting children's learning.

Data collection techniques used in this study include in-depth interviews, participant observation, and document analysis. In-depth interviews were conducted with parents, teachers, and principals to explore their experiences implementing parenting programs related to children's literacy and numeracy. Observations were conducted to record interactions between parents and children at home and school, while document analysis was performed to examine teaching materials and materials used in parenting programs at school. The collected data will be analysed using qualitative data analysis techniques that include data condensation, data reduction, data display, and data verification to ensure the validity and reliability of the findings (Taherdoost, 2022). Data validity checking is carried out using source and method triangulation techniques by comparing the results of interviews, observations, and documents to confirm the conformity of existing findings.

RESULTS AND DISCUSSION

Provision of Stimulation through Daily Activities

Providing stimulation through daily activities refers to the efforts of parents and teachers to provide stimulation and support integrated into routine activities carried out by children. This stimulation can be through reading storybooks, number games, daily conversations, or activities that indirectly involve literacy and numeracy concepts. In the context of early childhood at TK PKK Talun, Ponorogo, this activity aims to introduce children to the basic concepts of literacy and numeracy in a fun and natural form. Parents and teachers play an essential role in providing opportunities for children to learn while doing activities at home and school. These activities not only support academic

development but also contribute to forming positive relationships between children and the adults around them.

Table 2. Providing Stimulation through Daily Activities

INTERVIEW EXCERPTS	INDICATOR	INFORMANT
"I ALWAYS READ STORY BOOKS EVERY NIGHT BEFORE BED. MY CHILD LIKES IT AND CAN SAY SOME WORDS."	Providing literacy stimulation through reading	Parent
"IN CLASS, WE OFTEN PLAY NUMBER GAMES WHILE PUTTING TOGETHER PUZZLES. CHILDREN UNDERSTAND THE CONCEPT OF NUMBERS FASTER."	Stimulation of numeracy through games	Teacher
"EVERY MORNING, I ASK MY CHILD TO SAY NUMBERS AT HOME AND SORT TOYS BY SHAPE AND COLOR."	Literacy and numeracy activities in everyday life	Parent
"I CREATE LEARNING ACTIVITIES BY UTILIZING OBJECTS AROUND THE CLASSROOM, SUCH AS COUNTING THE NUMBER OF CHAIRS OR TABLES."	Providing numeracy stimulation in a social context	Teacher

The interviews with parents and teachers at Talun PKK Kindergarten show that literacy and numeracy stimulation are carried out through various creative approaches. Parents and teachers integrate basic literacy and numeracy concepts into children's daily lives at home and school. Parents use activities such as reading books and saying numbers, while teachers use games involving numbers and shapes to stimulate children's ability to recognise the world of numbers and literacy. The emphasis on fun and unstructured formal activities shows that parents and teachers understand the importance of providing stimulation in a natural context so that children feel comfortable and not stressed in their learning process. These activities also show that an activity-based approach effectively improves basic skills in early childhood. The results of field observations show that parents and teachers at Talun PKK Kindergarten play a very active role in providing literacy and numeracy stimulation in daily life. Children are involved in activities that develop their cognitive skills and strengthen emotional relationships with parents and teachers. In some cases, interactions during reading activities or playing with numbers increase children's self-confidence, where they feel appreciated and supported. This is based on developmental theories, which show that children who receive positive attention through daily activities tend to develop literacy and numeracy skills more quickly.

Overall, the data shows that providing literacy and numeracy stimulation at PKK Talun Kindergarten is very contextual, involving activities that are close to children's daily lives. This stimulation introduces basic concepts and strengthens social interactions between children and their parents and teachers. Therefore, parents and teachers are essential in creating an environment that supports children's cognitive development. In this way, children learn through formal instruction and the practical experiences they have every day.

From the data obtained, there is a consistent pattern that parents and teachers at PKK Talun Kindergarten use an approach based on daily activities to improve children's literacy and numeracy skills. The main pattern seen is the active involvement of parents and teachers in creating opportunities for learning in fun and informal contexts. Parents tend to focus more on reading books and using objects at home, while teachers often use games involving numbers and shapes. These two approaches complement each other and provide positive support for developing literacy and numeracy skills in young children.

Building a Supportive Learning Environment

Building a supportive learning environment refers to the efforts of parents and teachers to create spaces that can stimulate the development of literacy and numeracy in early childhood. This environment includes the place, atmosphere, and learning materials used at home and school. At PKK Talun Kindergarten, Ponorogo, a supportive learning environment is implemented by providing children with access to books, educational games and opportunities to learn in a fun way. In addition, positive interactions between children, parents, and teachers are significant in creating an atmosphere conducive to developing literacy and numeracy skills. Through ongoing and consistent stimulation, this supportive environment can improve children's basic skills.

The following excerpt from an interview with one of the parents describes how they create an environment that supports children's development: "At home, I always provide storybooks that can be read with the children every night. Apart from that, I also provide various toys that can help children recognise numbers and letters, such as number cards or puzzles (AE_2025)." The informant's statement shows that parents actively create a learning environment rich with educational materials, such as books and games. This shows parents' understanding of the importance of providing resources to stimulate children's literacy and numeracy skills. Parents who provide educational books and toys allow their children to learn in a fun and non-pressuring atmosphere.

Ratna Puji Astutik said, "We at school always try to create a fun classroom, with many posters containing numbers and letters. We also use interactive learning media, such as magnetic whiteboards and learning cards." This shows that teachers at TK PKK Talun focus on creating a classroom full of visual materials that can stimulate children's interest in literacy and numeracy. Using tools such as magnetic whiteboards and learning cards shows an interactive approach that aims to engage children in learning actively. This also shows the teacher's commitment to providing an environment rich in visual stimulation appropriate for the child's developmental age.

Based on the results of observations in the field, parents and teachers at TK PKK Talun play a significant role in building a learning environment that supports the development of children's literacy and numeracy skills. Parents provide learning materials at home, while teachers create a classroom rich in learning media. Observations also show that children are more active and enthusiastic in an environment full of pictures, numbers, and letters. This indicates that a supportive environment is critical in improving children's basic skills, because children feel more motivated to learn. Overall, the research data

shows that parents and teachers at Talun PKK Kindergarten have a vital role in creating a learning environment that supports the development of children's literacy and numeracy. At home, parents provide children with access to educational materials such as books and toys that stimulate children's interest in numbers and letters. At school, teachers create a fun classroom full of interactive learning materials. Combining these two factors provides a stimulating environment that accelerates children's development of basic skills.

From the data obtained, a consistent pattern is seen in how parents and teachers build an environment that supports literacy and numeracy development. Parents focus more on providing educational materials at home, while teachers create a visual and interactive classroom environment. This pattern shows that effective learning occurs not only at school but also at home, where children can access various educational resources that support their development. This pattern also indicates the importance of collaboration between parents and teachers in creating a consistent and stimulating environment for children.

Individualisation Approach in Learning

The individualisation approach in learning refers to how parents and teachers adjust learning methods to each child's needs and learning styles. At TK PKK Talun, Ponorogo, this approach is carried out by recognising the uniqueness of each child and providing support that is appropriate to their needs, both in terms of pre-literacy and numeracy. For example, some children may understand the concept of numbers more quickly through visual games. In contrast, others are more interested in speaking activities or listening to stories to develop literacy skills. This approach prioritises flexibility in providing teaching materials and creating learning opportunities appropriate to each child's abilities to grow optimally.

Table 2. Individualization Approach in Learning

INTERVIEW EXCERPTS	INDICATORS	INFORMANT
"I TRY TO PAY ATTENTION TO THE CHILDREN'S LEARNING STYLES. IF THE CHILDREN PREFER TO LISTEN TO STORIES, I READ BOOKS MORE OFTEN. IF OTHERS LIKE TO PLAY WITH NUMBERS, I INVITE THEM TO PLAY COUNTING."	Adapting learning methods to children's learning styles	Parent
"IN CLASS, I GIVE CHILDREN THE OPPORTUNITY TO CHOOSE ACTIVITIES THAT THEY LIKE, SUCH AS PLAYING WITH NUMBERS OR DRAWING LETTERS, SO THAT THEY ARE MORE INTERESTED IN LEARNING."	Providing activity choices to encourage children's participation	Teacher

"I SEE THAT CHILDREN PREFER TO LEARN THROUGH GAMES, SO I OFTEN USE AIDS SUCH AS NUMBER CARDS AND PUZZLES TO LEARN TOGETHER."	Using aids to adapt to children's learning styles	Parent
"WE GIVE VARIOUS TASKS, SUCH AS WRITING LETTERS AND COUNTING NUMBERS, AND LET THE CHILDREN CHOOSE WHICH ONES THEY FIND EASIER TO DO."	Varied tasks and providing choices	Teacher

From the interviews, it is clear that both parents and teachers at TK PKK Talun apply an individualisation approach very flexibly and focus on each child's unique needs. Parents and teachers follow a uniform learning method and try to identify the most effective ways for each child to understand literacy and numeracy. For example, some children prefer to learn by listening to stories, while others are more interested in number-based games. This adjustment creates a more personalised learning experience and can increase children's engagement in learning because they are free to learn in their own way. This shows a high awareness of individual differences among children, essential for developing their basic skills. The observation results show that at TK PKK Talun, the individualisation approach is implemented very well. Children can choose activities that suit their interests through games or number and letter-based activities. In learning sessions, children with different interests can participate in the activities they enjoy the most, making them more active and motivated. In addition, teaching tailored to children's learning styles, such as using number cards or puzzles, positively impacts their engagement and understanding of basic literacy and numeracy concepts. Researchers also noted that children who were allowed to choose activities showed faster understanding of the concepts taught, indicating the success of this approach in improving their basic skills.

The data shows that the individualised approach applied by parents and teachers at TK PKK Talun significantly improves children's pre-literacy and numeracy skills. Children can choose the learning method that suits them best, whether through stories, number games, or visually-based activities. This creates a more enjoyable learning experience and adapts to each child's uniqueness, increasing their engagement in the learning process. In addition, this approach also allows children to develop at their own pace, without feeling burdened by methods that do not suit their learning style. The pattern from the data obtained was a very individualistic and flexible approach to the learning process. Parents and teachers at TK PKK Talun tend to recognise differences in children's learning styles and adjust learning methods to those needs. Some children are more interested in stories and conversations, while others prefer number-based and visual activities. This approach shows that personalised learning increases children's participation, creates a more enjoyable learning atmosphere, and helps children understand literacy and numeracy concepts more effectively. By giving children the freedom to choose activities they like, they are more motivated and engaged in the learning process, which supports the development of their basic skills.

Increasing Family Involvement in Children's Learning

Increasing family involvement in children's learning refers to parents' active involvement in supporting their children's learning process at home and school. This involvement includes parents' participation in activities that support children's literacy and numeracy development, such as helping children with learning assignments, providing learning materials, and communicating with teachers to monitor children's progress. At TK PKK Talun, Ponorogo, parents are expected to not only be passively involved but also actively facilitate activities that can accelerate the development of children's basic skills. This includes, but is not limited to, reading with children, playing number games, and participating in educational activities at school.

Figure 1. Increasing Family Involvement in Children's Learning



Family involvement in children's learning begins with communication between parents and teachers, allowing parents to understand effective ways to support learning at home. Next, parents practice what they have learned through daily activities, such as reading or playing numbers with their children. These activities increase parental involvement and encourage children to be more enthusiastic about learning. This process creates a cycle of mutual support between parents, children, and teachers. This approach shows the importance of collaboration between home and school in creating a rich and consistent learning environment.

Based on the results of observations, parental involvement at Talun PKK Kindergarten looks very active. Many parents take their children to school and participate in activities that support their children's learning, both at home and by discussing with teachers at school. Parents involved more often discuss their children's development and look for ways to better support their children in literacy and numeracy. This shows that family involvement has a direct influence on children's learning, and provides a sense of security and emotional support that helps children develop better in terms of basic skills.

Overall, the data shows that increasing family involvement in children's learning, through communication with teachers and joint activities at home, significantly improves children's literacy and numeracy skills. Parents who are actively involved in supporting children's learning create a conducive environment and support optimal child development. Parental involvement also facilitates children's being more motivated and feeling valued in their learning process, which accelerates the mastery of important basic

skills at an early age. This data shows a strong relationship between parent-teacher communication and parental active involvement in children's learning. Parents who routinely discuss learning with teachers and implement learning at home, such as reading together and playing numbers, tend to have children who are more interested and motivated in learning. This pattern shows that family involvement positively impacts children's academic development and strengthens the relationship between children, parents, and teachers in creating an environment that supports consistent learning.

DISCUSSION

In the study on Parenting Approaches: Enhancing Pre-Literacy and Numeracy Skills in Early Childhood at TK PKK Talun, Ponorogo, several main sub-findings have been found related to providing stimulation through daily activities, building a supportive learning environment, an individualised approach to learning, and increasing family involvement in children's learning. These findings show consistency with existing literature, but also highlight some differences and adjustments relevant to the local context in Ponorogo. For example, providing stimulation through daily activities carried out by parents, such as reading books or playing numbers, is very much in line with previous studies showing that parental involvement in these activities plays a vital role in accelerating the development of children's literacy and numeracy skills (Al Murshidi et al., 2023; Chen, 2024). However, this study found that parents also actively use other daily activities, such as cooking or shopping, to teach basic numeracy concepts, indicating that literacy and numeracy can be taught in a broader and more informal context.

Meanwhile, in terms of building a supportive learning environment, the findings at the research location align with research conducted by Haq et al. (2024), which revealed the importance of providing a learning environment rich in educational materials, both at home and at school. This study shows that at Talun PKK Kindergarten, parents and teachers actively create a space full of visual materials such as books, pictures, and educational play tools. The difference is that the institution's parents provide educational materials at home and integrate learning into daily activities, such as shopping and playing with children, emphasising a real-life approach, not just based on formal learning objects. This directly impacts children's understanding of basic literacy and numeracy concepts. The individualisation approach to learning that is applied is also in line with existing literature, as stated by Boysen (2024), who states that children with various learning styles need different approaches to learning. In this study, teachers at the school implemented this approach by allowing children to choose activities that suit their interests, such as playing with numbers or drawing letters. However, the research findings show that the individualisation approach is not only limited to the selection of activities but also involves the use of various learning media, such as number cards and puzzles, which allow children to learn in a way that best suits their learning style. This approach implies that teachers and parents need to be more flexible and adaptive to children's learning needs, and provide more choices that allow children to feel more involved in the learning process.

Increasing family involvement in children's learning is consistent with previous research showing that parental involvement positively impacts children's academic achievement (Ma et al., 2022; Sengonul, 2022; Wilder, 2023). This study found that parents were actively involved in discussing their children's development with teachers and providing more concrete support at home through activities such as reading together and playing numbers. However, this finding shows that family involvement is more than providing support; it also includes ongoing communication with the school to determine how best to support children's development at home (Juwita, 2025). The practical implication is that effective parenting programs must involve collaboration between parents and teachers and provide practical guidance on how parents can integrate learning into daily activities at home.

Overall, the results of this study provide an important contribution to understanding how parenting approaches can improve early childhood literacy and numeracy skills in local contexts. The findings are consistent with much of the existing research, but also highlight the need for more contextual adjustments, such as integrating learning into everyday life and emphasising real-life-based approaches. The theoretical implications of this study are that literacy and numeracy should not only be taught in the school environment but can also be developed naturally in everyday activities at home. Practically, this study provides insights for parents and teachers in creating more supportive and flexible learning environments and guidelines for developing more effective parenting programs in the future.

CONCLUSION

The most important findings of this study are that parenting programs that provide stimulation through everyday activities, build a supportive learning environment, and an individualised approach to learning play a significant role in improving early childhood pre-literacy and numeracy skills. This study also highlights the importance of family involvement in supporting children's learning through communication with teachers and activities at home. The main lesson learned is that literacy and numeracy can be taught through formal methods in schools and in more informal and natural everyday life contexts, strengthening children's understanding of these basic concepts. The strength of this paper lies in its contribution to science, especially in early childhood education, by providing new insights into practical ways to integrate literacy and numeracy learning at home and school. This study adds to the importance of a more contextual and individual approach in supporting the development of children's basic skills. However, the limitation of this study lies in its focus only on TK PKK Talun in Ponorogo, so it cannot be generalised to all regions of Indonesia. For further research, it is recommended that a broader study with a more varied sample be conducted to explore the role of technology in supporting this parenting program.

REFERENCES

Al Murshidi, G., Daoud, S., Al Derei, R., Alhamidi, H., Jabir, W., & Sayed, N. (2023). Parental involvement in English as foreign language learners' education: Challenges and

solutions in a post-pandemic era. *International Journal of Educational Research Open*, 5, 100297.

Almaghfiroh, Z. A., Qomariyah, G. F. A. N., Maulana, A. A., Elbarkah, A. A., & Sulaiman, H. M. S. (2024). Implementasi perkembangan bahasa dan sosial anak melalui pendidikan orang tua yang berkualitas. *Innovative: Journal Of Social Science Research*, 4(4), 13158–13180.

Boysen, G. A. (2024). Lessons (not) learned: The troubling similarities between learning styles and universal design for learning. *Scholarship of Teaching and Learning in Psychology*, 10(2), 207.

Çaliskan, E. F., & Ulas, A. H. (2022). The Effect of Parent-Involved Reading Activities on Primary School Students' Reading Comprehension Skills, Reading Motivation, and Attitudes towards Reading. *International Electronic Journal of Elementary Education*, 14(4), 509–524.

Chen, W. (2024). Problem-solving skills, memory power, and early childhood mathematics: Understanding the significance of the early childhood mathematics in an individual's life. *Journal of the Knowledge Economy*, 1–25.

Conica, M., Nixon, E., & Quigley, J. (2023). Domain-specific and cross-domain effects of the home literacy and numeracy environment at 3 years on children's academic competencies at 5 and 9 years. *Developmental Psychology*, 59(6), 1045.

Creswell, J. W. (2012). Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research. In *PEARSON* (4th ed.). Boston: Pearson Education, Inc. <https://doi.org/10.1017/CBO9781107415324.004>

Destiawati, F., & Dhika, H. (2024). Inovasi Pembelajaran Digital: Peningkatan Literasi dan Numerasi di Pendidikan Anak Usia Dini. *Jurnal Insan Peduli Sosial Masyarakat (JIPEMAS)*, 2(2), 39–47.

Dierkx, V., van de Rijdt, B., Hessen, D., van Luit, H., & van Viersen, S. (2025). Early numeracy development as a foundation of mathematics achievement in primary education. *Learning and Individual Differences*, 121, 102706.

Douglas, A.-A., & Rittle-Johnson, B. (2024). Parental early math support: The role of parental knowledge about early math development. *Early Childhood Research Quarterly*, 66, 124–134.

Fauziah, S. L. (2022). Pendampingan belajar pada bidang literasi dan numerasi siswa sekolah dasar di masa transisi. *Jurnal Basicedu*, 6(2), 2606–2615.

Haq, F., Novridho, M. H., Mukaromah, F. N. I., Qulub, R., & Kholilah, M. N. (2024). Implementasi Edukasi Gizi Seimbang Untuk Orang Tua Dalam Mendukung Tumbuh Kembang Anak di Padukuhan Teganing 1, Kulon Progo. *ALMUJTAMAE: Jurnal Pengabdian Masyarakat*, 4(3), 259–269.

- Hossain, M. I., Haq, I., Hossain, M. S., Habib, M. J., Islam, F. B., Roy, S., & Rahman, M. (2023). Factors associated with early literacy and numeracy development among children under five years in Bangladesh: multivariate two-level mixed effect approach. *International Journal of Social Economics*, 50(3), 345–358.
- Juwita. (2025). Komunikasi Efektif dalam Peningkatan Mutu Pendidikan: Perspektif Psikologi Pendidikan. *Ahsan Journal: Journal of Educational Managemnet Research*, 1(1).
- Kamal, A., Amjad, N., Yaqoob, U., Saud, N., Ijaz, M., Khan, I., & Andualem, M. (2022). Role of socioeconomic and parental involvement factors on children foundational learning skills based on MICS (2017–2018) data Punjab, Pakistan. *Scientific Reports*, 12(1), 10313.
- Kumar, M., & Behera, B. (2022). Influence of home environment on children's foundational literacy and numeracy skills: A systematic synthesis with India in focus. *Asian Journal for Mathematics Education*, 1(3), 359–380.
- Laxman, R. (2024). Promoting Early Childhood Literacy and Numeracy: Effective Strategies for Foundational Learning. *Xpertno International Journal of Interdisciplinary Research (XIJIR)*, 1(2), 13–22.
- Lestari, G. D., & Yusuf, A. (2022). The Role of Parents in the Development of Numerical Literacy in Early Childhood. *European Journal of Education and Pedagogy*, 3(5), 86–92.
- Ma, L., Liu, J., & Li, B. (2022). The association between teacher-student relationship and academic achievement: The moderating effect of parental involvement. *Psychology in the Schools*, 59(2), 281–296.
- Maharbid, D. A., Markum, M., Gumala, Y., Pujayanah, I. S., & Sapitri, N. (2024). Asistensi Pembelajaran Literasi Dan Numerasi Dasar Bagi Orang Tua Siswa Di Kawasan Renzo Edupark Ubj Cibadak Sukabumi. *JPM: Jurnal Pengabdian Masyarakat*, 3(1), 343–351.
- Ne'eman, A., & Shaul, S. (2023). The association between emergent literacy and cognitive abilities in kindergarten children. *Child & Youth Care Forum*, 52(2), 467–488. Springer.
- Rofiki, M., & Badriyati, L. (2025). Enhancing Student Resilience through Anti-Bullying Policies: A Qualitative Study. *Tarbawi: Jurnal Keilmuan Manajemen Pendidikan*, 11(01), 161–176.
- Sengonul, T. (2022). A Review of the Relationship between Parental Involvement and Children's Academic Achievement and the Role of Family Socioeconomic Status in This Relationship. *Pegem Journal of Education and Instruction*, 12(2), 32–57.
- Taherdoost, H. (2022). What are different research approaches? Comprehensive Review of Qualitative, quantitative, and mixed method research, their applications, types, and

limitations. *Journal of Management Science & Engineering Research*, 5(1), 53–63.

Tokuhamma-Espinosa, T. (2025). One way neuroscience can improve Pre-literacy and Pre-numeracy skills in Young Children. *World Education Research Association: International Perspectives on Language, Literacy and Learning*. Corvinus University.

Wardhani, H. S., & Wiarsih, C. (2024). Kesiapan belajar siswa kelas 1 ditinjau dari pengalaman pendidikan prasekolah dan peran orang tua. *Consilium: Education and Counseling Journal*, 4(2), 172–184.

Wilder, S. (2023). Effects of parental involvement on academic achievement: a meta-synthesis. In *Mapping the field* (pp. 137–157). Routledge.