

An Analysis of Preschool Teacher Competency Levels: A Case Within the Malaysian Education Context

Mohd Zafaren Zakaria¹, Juppri Bacotang², Rashidin Idris³, Satoria Amiruddin⁴

^{1,2,4}Faculty of Education and Sports Studies, Universiti Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia

³Faculty of Education and Social Sciences, Universiti Selangor, Malaysia

DOI: <https://dx.doi.org/10.47772/IJRISS.2025.909000393>

Received: 10 September 2025; Accepted: 16 September 2025; Published: 13 October 2025

ABSTRACT

Early childhood education plays a crucial role in children's mental development to prepare them for school. Teachers, as educators, need to understand and possess high skills to translate the National Preschool Standard Curriculum (NPSC) into the teaching and learning they deliver. This study uses a quantitative approach in the form of a survey study, with a questionnaire as the main instrument. The study sample consisted of 379 respondents selected to gather data related to the professional development of preschool teachers. The questionnaire instrument was adapted from the Continuous Professional Development Plan (CPDP) to ensure relevance and effectiveness in gathering information. Descriptive data analysis in the form of means was conducted to identify the competency levels of preschool teachers, which included aspects of professional involvement, subject and pedagogical knowledge of preschool teachers, and the responsibilities and external working relationships of preschool teachers. The findings indicate that respondents tend to practice the best practices they have acquired for implementing teaching in preschool classrooms. Additionally, this study indicates a need to enhance competencies in early childhood education pedagogy-related training to broaden the knowledge and skills of preschool teachers. Preschool teachers are less involved in curriculum development because it requires the expertise and experience of preschool teachers in developing early childhood education curricula. Therefore, preschool teachers need to engage in continuous professional development (CPD) to remain competent throughout their service. The Ministry of Education Malaysia provides various opportunities for teachers, including preschool teachers, to participate in training, seminars, research, innovation, academic improvement, and other professional development activities. Teachers can participate in various CPD activities to increase their knowledge and skills to perform their duties more effectively and achieve high standards of teaching and learning quality.

Keywords: Preschool teacher competence, professional engagement, knowledge, responsibility, and external work relationships

INTRODUCTION

Shift 4 of the Malaysian Education Development Plan (2013-2025), which focuses on transforming the teaching profession into a profession of choice, highlights that teacher quality is the key determinant of student achievement in schools (Idris & Bacotang, 2023). According to the Ministry of Education Malaysia (Ministry of Education Malaysia [MOE], 2013) this also encompasses preschool teachers under the ministry's purview. Preschool teachers should be equipped with a Continuous Professional Development (CPD) program based on the needs of delivering services in the current education system (MOE, 2010).

The Ministry of Education preschool teachers can enhance their self-competency thru thirteen CPD activities such as structured training, whether planned or self-directed, upgrading their academic qualifications, and others. Teachers are also encouraged to participate in mentoring and coaching sessions, share best practices, and create a culture of excellence and exemplary professionalism among colleagues to strengthen the teaching profession. Early childhood education is an aspect that needs to be emphasized as it plays an important role in

the development of children's minds in preparation for school (Rozi et al., 2025). Teachers, as the implementers and deliverers of education, need to deeply understand and possess high skills to translate the National Preschool Standard Curriculum (NPSC) into the teaching and learning they deliver.

However, according to a study by Ghani and Nor (2020) stated that among the factors influencing preschool teachers in achieving curriculum goals are the teachers' level of understanding, their teaching practices, and the availability of equipment and infrastructure. Jasni et al. (2022) also stated that homeless preschool teachers face emotional stress due to the more aggressive and unfocused attitudes and behavior of homeless children. Based on the increasing need for preschool class expansion, the supply of preschool teachers also needs attention to ensure it is sufficient and that teaching and learning can be delivered effectively (Elmey et al., 2025). According to the study results by Ibrahim and Mohamed (2021), the skill level of non-option teachers in managing preschool children is at a moderate level. In this regard, there is a need to ensure the availability of preschool option teacher supply to accommodate the increase in preschool classes.

Preschool Teacher

The Malaysian Education Development Plan (MEDP 2013-2025) states that all preschools must adhere to national quality standards, including ensuring that qualified teachers with at least a diploma are placed in every preschool. Based on data up to December 2024, the percentage of teachers with a bachelor's degree in academic qualifications was found to be high at 89.3%, while for diplomas it was 5.3%. This statistic shows an improvement in the quality of preschool teachers placed in MOE preschools who have academic qualifications of at least a bachelor's degree.

In addition to having the minimum academic requirements for a diploma, the Ministry of Education is working to provide access to appropriate education and training opportunities. The Ministry of Education will also provide subsidy assistance to existing teachers who do not have an Early Childhood Education Diploma to upgrade their qualifications to meet the standards (MEDP 2013-2025). This aligns with one of the main focuses of the Government Transformation Program (GTP 2.0) to standardize preschool teacher qualifications. By 2024, 92.5% of MOE preschool teachers will have academic qualifications in preschool or early childhood education options.

Preschool teachers also need to engage with CPD to remain competent throughout their service. The Ministry of Education provides various opportunities for teachers, including preschool teachers, to participate in training, seminars, research, innovation, academic improvement, and other professional development activities. Teachers can participate in various CPD activities to increase their knowledge and skills to perform their duties more effectively and achieve high-quality teaching and learning standards.

Research Objective

The purpose of this study is to identify the level of preschool teacher competency, which includes aspects of professional involvement, subject and pedagogical knowledge, and external work responsibilities and relationships. More specifically, this study is based on the following objectives:

- 1) To identify the level of preschool teacher professional involvement.
- 2) To identify the level of preschool teacher subject and pedagogical knowledge.
- 3) To identify the level of preschool teacher external work responsibilities and relationships.

LITERATURE REVIEW

Content of Knowledge

Content knowledge is a teacher's knowledge of the subject matter content (Pedagogical Content Knowledge), while pedagogical knowledge (Content Knowledge) relates to knowledge of specific teaching strategies. According to Shulman (1986) argued that pedagogical content knowledge is the core of a teacher's knowledge. Mastery of content knowledge is extremely important for a preschool teacher because it will equip them with the skills and competence in teaching to achieve teaching objectives.

Masnan et al. (2019) stated that science is a key indicator in preparing teachers to educate students to solve problems. Furthermore, teachers must ensure they are equipped with knowledge and understanding before the teaching and learning process takes place so that the process of delivering knowledge can be carried out smoothly (Fathurrahman, 2017). Quality teaching will occur if preschool teachers possess pedagogical content knowledge and content knowledge (Gess-Newsome et al., 2017).

The Model of Teacher Professional Knowledge and Skill Including Pedagogical Content Knowledge (Gess-Newsome et al., 2017) lists teacher knowledge divided into five categories: (i) assessment knowledge; (ii) pedagogical knowledge; (iii) content knowledge; (iv) knowledge of students and (v) knowledge of the curriculum.

According to Chee et al. (2018), examinations conducted by the Ministry of Education (MOE) in 2012 and 2013 showed that a large number of preschool teachers were seen to face problems in understanding the content of the preschool curriculum, especially for non-option preschool teachers. This issue will indirectly affect the teacher's ability to provide clear explanations of knowledge, skills, values, and learning concepts.

Husin et al. (2017) explain that there are differences in skills and attitudes between teachers who teach according to their option and teachers who teach outside their option. Preschool teachers' knowledge is not only about classroom instruction, but also related to planning, assessment, and thinking (Kruk et al., 2011). Additionally, preschool teachers need to have confidence in the curriculum, the subjects they teach, pedagogy, teaching models, and the educational context. All these aspects help them analyze and broaden their understanding of quality teaching (Nessipbayeva, 2012).

Teaching Skills

Teaching skills are the methods or techniques used to achieve teaching objectives. Effective teaching strategies should be practiced by all teachers in the teaching and learning process systematically, planned, and organized. 21st-century-based learning requires preschool teachers to have a meticulous plan before entering the classroom.

Furthermore, in the teaching and learning process, preparation, implementation, and evaluation are important components that will determine the level of teaching professionalism (Rusli & Mahamod, 2023). Preparing daily lesson plans will help teachers be methodologically prepared, meaning the teaching and learning process that occurs from the beginning to the end of the teaching time. Different teachers have different teaching delivery styles.

In addition, the teacher's skill in choosing the right approach and their efficiency in planning methods and techniques for teaching and learning based on the predetermined learning objectives are very important (Mok, 2008). However, teachers who are not seen as an option are burdened with teaching duties, especially in terms of the burden of mastering the subject matter well. The issue that will often be heard is that the level of mastery and achievement of students will begin to be questioned when the performance of these children is seen as unsatisfactory (Zakaria et al., 2018). These teachers will certainly have less knowledge, especially in terms of learning content and teaching pedagogy, which is very different from learning in their professional field (Ibrahim & Mohamed, 2021). This is because the effectiveness of teachers' instruction will improve through reflection, reading, research, involvement in professional organizations, and discussions with their peers. A teacher's teaching skills are viewed from a pedagogical aspect, which is the foundation for a teacher in conveying knowledge to students. Pedagogy encompasses the principles and methods of teaching that include the optimal teaching and learning process. Effective teaching and learning processes are influenced by how teachers utilize diverse techniques to achieve objectives.

Based on a study conducted by Arshad and Chee (2017), there are several weaknesses in the teaching and learning process, particularly in the aspect of teachers' teaching methods. A study by Wijayanti (2017) showed that the way teachers teach is too boring, causing children to quickly become bored during teaching and learning sessions. Based on the researcher's reading, problems like this also occur when non-option teachers are tasked with handling the class. They are seen as unable to optimize their skills while in class.

Furthermore, managing preschool students is vastly different compared to regular classes, whether at the primary or secondary level. The diversity of teaching methods and resources becomes very limited because they lack skills in the assigned field. This is supported by Noh (2009), who stated that children will easily lose focus during the learning process if the teacher's delivery methods and teaching resources are perceived as boring.

Teaching skills include planning, which is writing lesson plans; management, which is the teacher's delivery method during teaching and learning; and assessment, which is how students are evaluated based on the delivery of teaching and learning. Preschool teachers need to master skills such as how to start a lesson, questioning techniques, and how to assess. A preschool teacher who possesses these skills and can apply them during the teaching and learning process will successfully achieve the lesson objectives. The teaching process, which begins with the initial stage, progresses thru development, and ends with reinforcement and strengthening, will successfully maintain students' motivation to continue participating in the teaching and learning process.

Professional Development

Teacher professional development is a method that can be used to enhance the competence and performance of preschool teachers more robustly in order to face 21st-century teaching and learning (Chee et al., 2018). Typically, the goals of professional development are to meet the needs of the school, the individual, and the nation. The main objective of professional development is to enhance existing knowledge, skills, and values. Additionally, preschool teachers need to remain effective in providing the best services in the fields of education and professional development as a necessary support program that should be continued (Mokhti & Rafiuddin, 2013).

Teaching is not an option; teachers need to strive to improve their teaching skills in preschool because the KSPK (Chee et al., 2018) reforms require teachers to equip themselves with content and pedagogical knowledge so that they are confident in the classroom. The professional development of preschool teachers should begin with training on the true role of a teacher, followed by professional teacher training (Ungar, 2016). Professional development is a continuous learning process that includes training in teaching skills and support activities for teaching.

In addition, professional development also helps non-option teachers gain new experiences to keep up with the latest trends in early childhood education, such as innovative teaching strategies and new knowledge in pedagogy and child psychology. Teacher professional development is important for preschool teachers because it not only helps them advance themselves, but also because innovations and developments in the field of education must be followed due to the dynamic and ever-changing work environment (Darling-Hammond & Bransford, 2005).

However, preschool teachers need to understand and know their own professional needs, interests, and desire to learn in order to identify areas for professional development. This is because intrinsic and extrinsic motivation will play a key role in a teacher's professional development (Ungar, 2016). This professional development for teachers is the Ministry of Education's hope in its efforts to drive the transformation process to produce quality teachers in order to achieve the goals of educational excellence and national development. In addition, professional development has helped teachers improve the quality of their knowledge, skills, and competencies.

METHODOLOGY

This study uses a quantitative approach in the form of a survey method. This descriptive survey study is suitable for describing and explaining a current situation or phenomenon. The study sample consisted of 379 respondents who were education service officers teaching in KPM preschools, representing the population of the west coast of Peninsular Malaysia, namely Kuala Lumpur, Selangor, and Negeri Sembilan.

The study instrument is a questionnaire adapted from the Continuous Professional Development Plan (CPDP). The questionnaire uses a five-point Likert scale, ranging from 1 to 5. The validation process for these

questionnaire items was based on a review by five appointed experts, consisting of professionalism experts and field experts. Researchers also used Cronbach's Alpha coefficient formula analysis to determine the internal consistency and reliability of each administered item (Creswell, 2013; Pallant, 2001; Sekaran, 2010).

Findings from the validation process of a questionnaire instrument containing 36 items divided into three constructs: professional engagement, subject and pedagogical knowledge, and external work responsibilities and relationships. The Cronbach's Alpha value obtained thru the Professionalism Engagement construct is 0.954, consisting of 10 items; the Subject and Pedagogical Knowledge construct is 0.965 with 11 items; and the Responsibility and Work Relationships Outside the Classroom construct is 0.893, consisting of 10 items. Meanwhile, the Cronbach's Alpha value for all constructs is 0.941. Therefore, a Cronbach's Alpha value of 0.80 is considered good, and a value approaching 1 indicates high validity and reliability (Sekaran & Bougie, 2010).

This study involved descriptive data analysis in the form of means and standard deviations to assess the competency levels of preschool teachers in the aspects of professional engagement, subject and pedagogical knowledge, and external work responsibilities and relationships. The level distribution according to the mean value is as follows in Table 1;

Table 1 Level of Category by Mean Value

Level	Mean Value
Low	1 – 2.33
Moderate	2.34 – 3.66
High	3.67 – 5.00

FINDINGS

The study findings are explained according to the three levels of the preschool teacher competency construct, namely professional engagement, subject and pedagogical knowledge, and external work responsibilities and relationships.

Stages of Professional Engagement of Preschool Teachers

Based on the analysis of findings such as Table 2, there are 10 items under the construct of preschool teachers' professional engagement. The overall mean for this construct is 3.96, which is at a high level. "Item 1: Choosing teaching strategies based on best practices in early childhood education" received the highest mean of 4.47, which is considered high. These findings indicate that respondents tend to practice the best practices they have acquired for implementing teaching in preschool classrooms.

Meanwhile, "Item 3: Presenting at seminars, workshops, and/or early childhood education conferences" received the lowest mean, which was 2.98 and at a moderate level. Additionally, "Item 10: Participate in early childhood education-related investigations or action research to improve one's own classroom practices." It is also at a simple level, with a mean value of 3.19. Both of these items, which received the lowest mean, indicate that respondents are less professionally involved in CPD activities such as research, action research, and presentations at seminars or conferences.

Table 2 Level of Preschool Teacher Professionalism Engagement (N=379)

No.	Items	Mean	Level
1	Choosing teaching strategies based on best practices in early childhood education.	4.47	High
2	Dedication to teaching in preschool as a lifelong career.	4.38	High
3	Giving presentations at early childhood education seminars, workshops, and/or conferences.	2.98	Moderate
4	Actively seeking professional development opportunities related to the field of early childhood education.	4.06	high

5	Experimenting with innovative teaching practices in early childhood education.	4.04	High
6	Starting a new program in the classroom at preschool to improve education.	4.01	High
7	Stay within your own field by reading journals and/or attending early childhood education conferences and workshops.	3.83	High
8	Frequently observes other preschool teachers to improve their own teaching.	4.31	High
9	Accepting new ideas for change in the field of early childhood education.	4.35	High
10	Participating in research related to early childhood education or action research to improve one's own classroom practices.	3.19	Moderate
	Overall	3.96	High

Subject Knowledge and Pedagogical Stage of Preschool Teachers

Based on the analysis of the findings in Table 3, the overall mean for the constructs of subject matter knowledge and preschool teacher pedagogy is 4.47, which is at a high level. The item with the highest mean is "Item 5: Avoiding actions that embarrass preschool students," with a score of 4.68, which is considered high. This indicates that the respondents, as preschool teachers, possess good professional ethics and values during interactions with preschool students.

Meanwhile, "Item 7: Possesses extensive content knowledge in the field of early childhood education," and "Item 9: Possesses extensive pedagogical knowledge in the field of early childhood education," received the lowest mean, which was 4.13 for each, and were at a high level. These findings can be linked to respondents who teach preschool students but do not have a preschool option or early childhood education that requires training and pedagogical guidance in early childhood education teaching. Additionally, these findings also indicate a need to enhance competencies in early childhood education pedagogy-related training to broaden the knowledge and skills of preschool teachers.

Table 3 Preschool Teachers' Subject Matter and Pedagogical Knowledge (N=379)

No.	Items	Mean	Level
1	Teaching using methods appropriate for the current development of early childhood education.	4.50	High
2	Understanding the developmental needs of children in the classroom.	4.59	High
3	Making decisions in the classroom based on the needs of preschool students.	4.56	High
4	Knowing and applying the theories of student development in preschool.	4.39	High
5	Avoiding actions that embarrass preschool students.	4.68	High
6	Conducting self-reflection and analyzing one's own lessons.	4.52	High
7	Possesses extensive content knowledge in the field of early childhood education.	4.13	High
8	Providing all students with fair learning opportunities in preschool.	4.58	High
9	Possess extensive pedagogical knowledge in the field of early childhood education.	4.13	High
10	Considering all aspects of preschool students.	4.47	High
11	Creating a positive learning environment for preschool students.	4.60	High
	Overall	4.46	High

Stages of Responsibility and Work Relationships Outside the Preschool Teacher's Classroom

Based on the analysis of the findings in Table 4, the overall mean for the constructs of responsibility and work relationships outside the preschool teacher's classroom is 4.16, which is at a high level. The item with the highest mean is "Item 4: Establishing friendly and cooperative relationships with parents," with a score of 4.70, which is at a high level. This proves that respondents are able to carry out their responsibilities in building friendly relationships with parents to facilitate the management of preschool students.

Meanwhile, "Item 10: Participating in the development of early childhood education-related curriculum" received the lowest mean, which was 3.60, and was at a moderate level. This indicates that preschool teachers are less involved in curriculum development because it requires the expertise and experience of preschool teachers in developing early childhood education curricula.

Table 4 Level of Responsibility and Work Relationships Outside of Preschool Teachers (N=379)

No.	Items	Mean	Level
1	It is a positive role model for other preschool students and teachers.	4.27	High
2	Serving as a public reference in the field of early childhood education.	3.81	High
3	Sharing ideas and teaching strategies with other early childhood education teachers.	4.24	High
4	Fostering friendly and cooperative relationships with parents.	4.70	High
5	Collaborating with other early childhood education teachers for the benefit of the students.	4.51	High
6	Helping to foster a positive work environment in the school.	4.59	High
7	Discussing teaching philosophies with other early childhood education teachers.	4.12	High
8	A mentor or willing to be a mentor to new early childhood education teachers.	4.02	High
9	Actively involved in professional teacher organizations, particularly in the field of early childhood education.	3.73	High
10	Participating in the development of early childhood education-related curriculum.	3.60	Moderate
	Overall	4.16	High

DISCUSSION AND CONCLUSION

The Ministry of Education Malaysia is working to strengthen the competencies of preschool teachers thru the CPD program. The study results show that preschool teachers are participating in training programs that enhance their competencies, such as Therapy Courses for Children, Communication Skills, and Managing Preschool Students, among others. However, this study found that preschool teachers are less professionally involved in CPD activities such as research, action research, and presentations at seminars or conferences. Additionally, the study results indicate that preschool teachers possess good professional ethics and values during interactions with preschool students.

However, teachers still need training and guidance in the field of early childhood education, especially preschool teachers who did not specialize in preschool or early childhood education. Fatul and Alias (2020) stated that teacher knowledge can have a significant impact on students. Preschool teachers' knowledge of digital technology is also very important in early childhood education. Judi (2024) found that preschool teachers have a positive perception that the use of technology such as augmented reality (AR) can motivate, increase the knowledge and creativity of children. Therefore, teachers need to be exposed to learning strategies thru seminars, courses, or workshops.

From the aspect of responsibility and work relationships outside the classroom, preschool teachers were found to be able to establish friendly and cooperative relationships with parents and teachers for the benefit of preschool students. Bacotang et al. (2025) show that the level of work culture among preschool teachers is high, while the level of challenges faced by preschool teachers is moderate. The study results also show that preschool teachers are willing to mentor new preschool teachers.

Based on the results of this study, the preschool teaching profession is a field with an extremely broad scope. As a preschool teacher, preparation in terms of knowledge, understanding, mental and physical resilience, mastery of the field, and so on needs to be strengthened from time to time. Ambotang and Anuar (2023) found that pedagogical knowledge, content knowledge and teacher commitment are factors that influence the quality of teacher teaching. This aims to enable preschool teachers to inject new life into the education arena, thereby bringing the light of excellence to preschool students in the future.

Therefore, it is important to deeply understand the teaching profession so that preschool teachers can prepare, practice teaching ethics, and make the best plans to deal with various behaviors of children, colleagues, administration, parents, and so on. These supplies are important so they can interact more closely with students and the community, in addition to helping children not only academically but also in building commendable morals and character. Therefore, the capacity of future teachers and the empowerment of teachers already in the system are very necessary to strengthen knowledge and skills in tandem, making education more excellent and ensuring its sustainability and excellence.

REFERENCE

1. Ambotang, A. S., & Anuar, L. (2023). Pengaruh pengetahuan pedagogi, pengetahuan kandungan dan komitmen guru terhadap kualiti pengajaran (The influence of pedagogical knowledge, content knowledge and teacher commitment on teaching quality). *Jurnal Pemikir Pendidikan*, 11(1), 50–60. <https://doi.org/10.51200/jpp.v11i1.4279>
2. Arshad, M., & Chee, S. C. (2017). Penilaian semula pengajaran dan pembelajaran dalam pembacaan awal (Re-evaluation of teaching and learning in early reading). *Jurnal Pendidikan Awal Kanak-Kanak Kebangsaan*, 6(2), 79-86.
3. Bacotang, J., Mahda, A. H., Idris, R., Formen, A., Zakaria, M. Z., & Rekan, A. A. (2025). The relationship between work culture and the challenges faced by early childhood education teachers in Kota Kinabalu, Sabah. *International Journal of Research and Innovation in Social Science (IJRISS)*, 9(03), 4403-4410. <https://doi.org/https://dx.doi.org/10.47772/IJRISS.2025.903SEDU0314>
4. Chee, J., Nor, M. M., Othman, A. J., & Rahman, M. N. A. (2018). Isu Pengetahuan kandungan, pedagogi dan teknologi dalam kalangan guru prasekolah (Content, pedagogical and technological knowledge issues among preschool teachers). *JuKu: Jurnal Kurikulum & Pengajaran Asia Pasifik*, 6(1), 7-21.
5. Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage Publications.
6. Darling-Hammond, L., & Bransford, J. (2005). *Preparing teachers for a changing world: What Teachers should learn and be able to do*. John Wiley & Sons.
7. Elmey, N.S. M.S., Rozi, N. A. K., Harun, N. H., Johari, N., Bacho, A. N.S., Jumati, N. F., & Idris, R. (2025). Play to learn: A literature review on parental involvement in play-based early mathematics. *Quantum Journal of Social Sciences and Humanities*, 6(3), 323-331.
8. Fathurrahman. (2017). Principal's charismatic leadership in vocational teachers supervision based on islamic boarding school. *Advances in Economics, Business and Management Research*, 45, 112-118.
9. Fatul, N. W., & Alias, A. (2020). Pengetahuan Guru Prasekolah Mengenai Ciri-Ciri Murid Masalah Pembelajaran (Knowledge of Preschool Teacher on Characteristics of Learning Difficulty). *Journal of Quran Sunnah Education & Special Needs*, 4(2), 45-53.
10. Gess-Newsome, J., Taylor, J. A., Carlson, J., & Gardner, A. (2017). Teacher pedagogical content knowledge, practice, and student achievement. *International Journal of Science Education*, 41(7), 953-975.
11. Ghani, R. B. A., & Nor, M. M. (2020). Faktor yang mempengaruhi peranan guru dalam pelaksanaan kurikulum standard prasekolah kebangsaan (KSPK) di Malaysia (Factors influencing the role of teachers in the implementation of the national preschool standard curriculum (KSPK) in Malaysia). *JuKu: Jurnal Kurikulum & Pengajaran Asia Pasifik*, 8(4), 35-49.
12. Husin, M., Awang, M. M., & Ahmad, A. (2017). Teacher readiness in teaching and learning history process through i-think mind maps. *Yupa: Historical Studies Journal*, 1(2), 183-198.
13. Judi, M. (2024). Penerimaan guru pelatih terhadap penggunaan realiti berperantara (AR) dalam pendidikan prasekolah (Acceptance of trainee teachers towards the use of augmented reality (AR) in preschool education). *Jurnal Pemikir Pendidikan*, 12(1), 46-53. <https://doi.org/10.51200/jpp.v12i1.5006>
14. Ibrahim, H. H., & Mohamed, S. (2021). Kompetensi guru-guru bukan opsyen dalam pengajaran dan pembelajaran pendidikan prasekolah (Kompetensi guru-guru bukan opsyen dalam pengajaran dan pembelajaran pendidikan prasekolah). *Jurnal Dunia Pendidikan*, 3(2), 377-385.
15. Idris, R., & Bacotang, J. (2023). Exploring STEM education trends in Malaysia: Building a talent pool for industrial revolution 4.0 and society 5.0. *International Journal of Academic Research in Progressive Education and Development*, 12(2), 381–393.
16. Jasni, M. A., Hassan, N., Ibrahim, F., & Kamaluddin, M. R. (2022). Isu gelandangan dan keciciran pendidikan dalam kalangan gelandangan kanak-kanak (The issue of homelessness and educational dropout among homeless children). *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 7(8), e001692-e001692.
17. Kruk, R., Prentice, S., & Moen, K. B. (2011). Early childhood education and care (ECEC) and reading acquisition in at-risk readers: Does quantity matter? *Canadian Journal of Behavioural Science*, 45(1), 49-63.

18. Ministry of Education Malaysia. (2010). National preschool standard curriculum. Curriculum Development Division, Ministry of Education Malaysia.
19. Ministry of Education Malaysia. (2013). Malaysia education blueprint 2013-2025. *Education*, 27(1), 1-268.
20. Masnan, A. H., Anthony, N. E., & Zainudin, N. A. S. (2019). Pengetahuan pengajaran dalam kalangan guru prasekolah (The knowledge of teaching among preschool teachers). *Jurnal Pendidikan Awal Kanak-Kanak Kebangsaan*, 8, 33-41.
21. Mok, S. S. (2008). Psikologi pendidikan untuk pengajaran & pembelajaran (Educational psychology for teaching & learning). Penerbitan Multimedia Sdn.
22. Mokhti, M. A., & Rafiuddin, N. M. (2013). Persepsi guru sains yang mengamalkan lesson study sebagai program pembangunan profesional guru terhadap keberkesanan pengajaran dan pembelajaran (Perceptions of science teachers who practice lesson study as a teacher professional development program towards the effectiveness of teaching and learning). *Proceeding of the Global Summit on Education 2013*, 11-12.
23. Nessipbayeva, A. (2012). The role of teacher in early childhood education: Challenges and prospects. *International Journal of Educational Research*, 103, 84-91.
24. Noh, M. A. C. (2009). Amalan pengajaran tilawah al-Quran: Satu tinjauan terhadap persepsi guru di sekolah menengah harian Malaysia (Teaching practices of Quran recitation: A survey of teachers' perceptions in Malaysian secondary schools). *Journal of Islamic and Arabic Education*, 1(1), 57-72.
25. Pallant, J. (2001). *SPSS survival manual: A step by step guide to data analysis using SPSS*. Open University Press.
26. Rozi, N. A. K., Elmey, N.S. M.S., Bacotang, J., Harun, N. H., Johari, N., Bacho, A. N.S., Jumati, N. F., & Idris, R.(2025). Little steps, big counts: The literature review of parental play on early math learning. *Quantum Journal of Social Sciences and Humanities*, 6(3), 344-353.
27. Rusli, N. E. Z., & Mahamod, Z. (2023). Tahap kemahiran pedagogi, motivasi dan sikap guru-guru bukan opsyen sekolah rendah dalam pengajaran bahasa melayu (The level of pedagogy skills, motivation and attitude of non-option primary school teachers in Malay Language Teaching). *Jurnal Pendidikan Bahasa Melayu*, 13(1), 12-24.
28. Sekaran, U. (2010). *Research methods for business: A skill-building approach* (5th ed.). Wiley.
29. Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill building approach* (5th ed.). John Wiley & Sons Ltd.
30. Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4-14.
31. Ungar, O. A. (2016). Understanding teachers' attitude toward educational reforms through metaphors. *International Journal of Educational Research*, 77, 117-127.
32. Wijayant, V. D. (2017). Meningkatkan kemampuan kemampuan membaca pada anak kelompok A dengan menggunakan kartu kata bergambar (Improving the reading ability of group A children using picture word cards). *Pedagogi: Jurnal Anak Usia Dini dan Pendidikan Anak Usia Dini*, 3(2).
33. Zakaria, N. S., Fauzi, M. S. H., Mohd Pisol, M. I., & Hamzah, H. (2018). Penggunaan sumber rujukan dalam pengajaran bahasa arab: Satu tinjauan dari perspektif guru bukan opsyen (The use of reference sources in teaching Arabic: A survey from the perspective of non-optional teachers). *O-JIE: Online Journal of Islamic Education*, 6(2), 9-17.