Pedagogical and Content Knowledge of Third Language among Preschool Teachers in Perak

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ABSTRACT

Studies have shown that at an early age, children are highly positive and receptive towards learning a third language. This has the potential to lead to higher proficiency in the third language in the future. In this context, the third language refers to languages such as Chinese, Tamil, Kadazan, Iban, and others. However, preschool teachers face various challenges in teaching the third language due to limited knowledge, insufficient pedagogical skills, less engaging delivery methods, and a lack of relevant teaching resources. This study was conducted to address the gap in empirical research on third language teaching among preschool teachers in Malaysia. The objectives of the study are to: a) identify the level of preschool teachers' pedagogical knowledge in teaching the third language, b) examine the level of content knowledge of the third language in teaching implementation, and c) analyze the relationship between pedagogical knowledge and content knowledge in third language teaching. A survey method was employed to obtain primary data, while structured interviews were conducted for qualitative data. A total of 150 preschool teachers participated as respondents. The research instruments consisted of a set of questionnaires and structured interviews. Data triangulation was applied to compare and validate findings from both quantitative and qualitative approaches. The findings of this study are expected to contribute to early childhood education policies and curriculum development, in line with the aspiration of nurturing a multilingual generation and fostering a united *madani* society.

INTRODUCTION

The mission of national education aspires to elevate Malaysia's education system to world-class standards in order to produce competent teachers in the teaching profession (Ministry of Education Malaysia, 2004). This mission is outlined by the Teacher Education Division (BPG), Ministry of Education Malaysia (MOE), which is one of the bodies responsible for producing qualified and high-quality teachers. According to the Education Development Master Plan (PIPP) 2006–2011, specific requirements must be met by teachers, namely:
"The teaching profession cannot be regarded as a career that can be pursued by just anyone. Only those who possess quality, competence, authority, qualifications, interest, commitment, and a true educator's spirit are eligible to become teachers." (Ministry of Education Malaysia, 2006, p. 110).

The importance of pedagogical knowledge for quality Preschool Teachers (PTs) has been made a key focus of the national education system. This is highlighted in the National Key Result Areas (NKRA), in collaboration with government agencies such as the MOE (Ministry of Education Malaysia, 2010a). Based on the NKRA, PTs are required to ensure that preschool education is of high quality so that it can enhance children's interest in learning and encourage continuity of education at higher levels (Ministry of Education Malaysia, 2010a, p. 5). Furthermore, PTs must master pedagogical knowledge and skills appropriate to the developmental stages of their pupils (Abdul Rahim, Mohd Najib & Lily, 2010). Souto-Manning and Dice (2007) also shared the same view, emphasizing that PTs need to understand the pedagogical skills required to meet the aspirations of national education.

In recent years, both the government and the private sector have introduced changes in one of the pillars of the National Preschool Standard Curriculum (KSPK), namely the Communication Strand. The Communication

Strand involves mastery of the Malay and English languages among preschool children, and more recently, preschools have been encouraged to integrate the teaching of a Third Language (L3) into both national and private preschool curricula. This is in line with education policies that stress the importance of learning additional languages such as Chinese, Tamil, Arabic, Spanish, Japanese, German, and French, as outlined in the Malaysia Education Blueprint (PPPN, 2013–2025). Multilingual learning can further enhance cultural understanding and tolerance among Malaysians, thereby strengthening national unity through language use. For example, a total of 1,741 *Tabika Perpaduan* across Malaysia have introduced L3 curricula such as Chinese and Tamil in preschools located in Peninsular Malaysia, Iban in Sarawak, and Kadazan in Sabah (Halimah, in *Utusan Malaysia*, 2021).
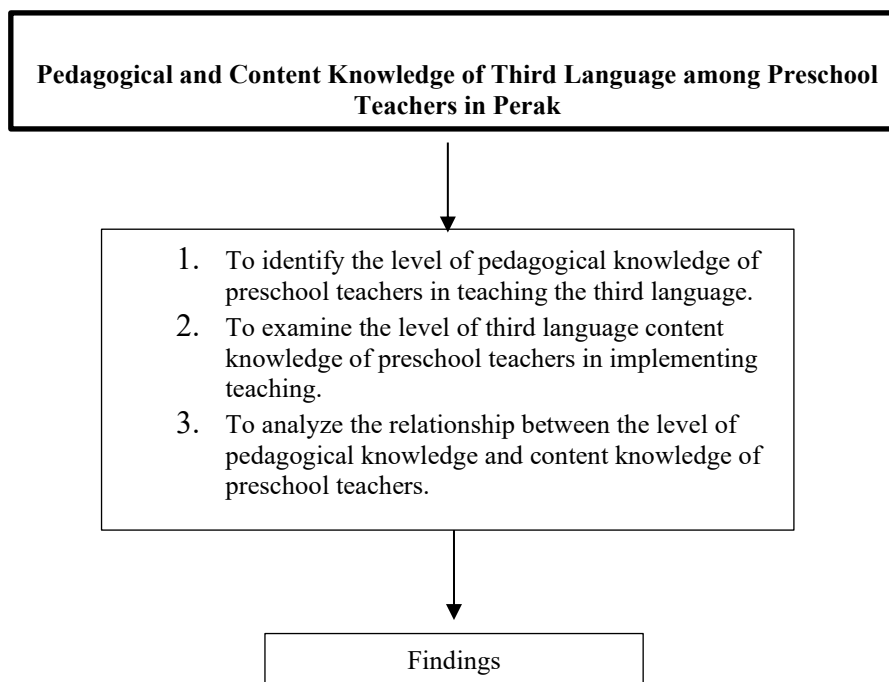
Although there is no official policy mandating the teaching of L3 in all national and private preschools in Malaysia, many government and private preschools have begun offering L3 classes as part of the Communication Strand in the curriculum. Consequently, many preschools now offer Mandarin, Tamil, and Arabic as additional language options alongside the national language (Malay) and English. This trend is well received by parents who wish for their children to master more than one language. It is particularly significant for communities striving to preserve their mother tongue, such as Chinese and Indian ethnic groups. The establishment of L3 teaching in preschools stems from initiatives by the MOE, local communities, greater awareness of early education, and the importance of preserving cultural identity. Thus, teachers must master the curriculum and teaching practices in order to better handle the challenges of teaching and learning in the classroom.

Therefore, the purpose of this study is to identify the level of preschool teachers' knowledge in terms of pedagogy, third language content knowledge, and the relationship between pedagogical and content knowledge in implementing third language teaching in preschools in Perak.

Conceptual Framework

Figure 1

The conceptual framework between pedagogy and third language content, and the relationship between pedagogy and content knowledge of preschool teachers.

Figure 1 above illustrates the expected relationship between teachers' pedagogical knowledge and third language content knowledge among preschool teachers.

Research Objectives

This study aims to identify the level of pedagogical knowledge of preschool teachers in teaching the third language, examine the level of third language content knowledge of preschool teachers in implementing teaching,

and analyze the relationship between pedagogical knowledge and content knowledge of preschool teachers in carrying out third language teaching.

METHODOLOGY

Research Method

In this study, a quantitative research design was employed, supported by qualitative methods, in line with a mixed-methods approach aimed at obtaining comprehensive and in-depth data on the level of pedagogical knowledge, content knowledge, and the relationship between these two aspects among preschool teachers teaching a Third Language (L3). The quantitative approach served as the main component of the study through the distribution of questionnaires to preschool teacher (PT) samples. The questionnaire was designed based on the research objectives to measure teachers' knowledge in pedagogy and content objectively and systematically, guided by constructivist theory and Shulman's Pedagogical Content Knowledge (PCK) framework (1987).

To enhance methodological rigor, the reliability of the questionnaire was assessed using Cronbach's alpha, with all scales demonstrating acceptable internal consistency. Validity was ensured through expert review and pilot testing, while the sampling procedure was justified to represent the population of preschool teachers teaching L3. Ethical approval was obtained from [insert institution or ethics committee name], and informed consent was secured from all participants prior to data collection.

The quantitative data obtained were analyzed using SPSS software for descriptive and inferential statistical analyses, such as mean, standard deviation, correlation, and tests of relationships between the studied variables. In addition, the analysis could be further expanded using regression or structural equation modeling, which would provide deeper insights into the interrelationships between teachers' pedagogical knowledge, content knowledge, and their combined impact on teaching effectiveness. This approach enabled the researcher to identify patterns, trends, and relationships quantitatively, and to generalize the findings to the larger population of preschool teachers (Azman & Cheong, 2021).

However, the quantitative approach alone may not capture the real context and lived experiences of teachers in implementing L3 teaching (Merriam & Tisdell, 2023). Therefore, the qualitative approach was used as a supporting method through structured interviews with selected PTs teaching L3. These interviews provided detailed information on teachers' actual experiences in applying pedagogical and content knowledge, the challenges faced, teaching strategies employed, and their perceptions regarding the need for further training and support in L3 teaching at the preschool level.

The integration of qualitative data strengthened the quantitative findings, enhancing reliability and validity through data triangulation (Creswell & Plano Clark, 2022). Triangulation was performed by cross-verifying findings from questionnaires with interview data, ensuring accurate interpretation and minimizing researcher bias during analysis. Together, the mixed-methods design allowed for a more holistic understanding of preschool teachers' pedagogical and content knowledge in L3 teaching and provided robust evidence to inform teacher training, curriculum development, and policy planning.

Population and Respondents of the Study

In this study, the population refers to PTs who teach L3 in preschools, kindergartens, or *tabika* registered under the MOE. The study population was focused in the state of Perak, with special emphasis on the district of Manjung, as this area has a significant number of preschools actively offering third language courses and receives support from the District Education Office in conducting research. A total of 150 PTs were involved as respondents through the distribution of questionnaires to obtain data on their level of pedagogical and content knowledge in implementing L3 teaching. Selecting this population was important to ensure relevant data collection and to help the researcher understand the actual level of pedagogical and content knowledge mastery among PTs teaching L3. For sampling, the researcher employed purposive sampling, which is appropriate for studies requiring samples with specific criteria aligned with the research focus (Etikan & Bala, 2017; Creswell & Plano Clark, 2022). This technique allowed the researcher to select only individuals who met the required criteria, ensuring that the data obtained were relevant, of high quality, and capable of accurately addressing the research questions.

Selection of Purposive Sampling Method

The use of purposive sampling in this study was based on the following factors:

1. **Relevance to the Research Focus** – This study focuses on PTs teaching L3; therefore, selection was limited to individuals who met the predetermined criteria to ensure data aligned with the research objectives (Azman & Cheong, 2021).

2. **Ensuring Data Accuracy** – By filtering respondents based on academic background, teaching experience, and teaching context, the data collected are more valid, contextual, and able to support a holistic analysis (Merriam & Tisdell, 2023).

3. **Avoiding Respondent Selection Errors** – This method prevents the involvement of PTs unrelated to L3 teaching, thereby reducing the risk of inconsistent data that could affect the quality of analysis.

4. **Meeting Specific Research Requirements** – The study required a sample of teachers with academic qualifications in early childhood education and at least one to three years of teaching experience to ensure that respondents had real experience in implementing third language teaching (Noor et al., 2023).

5. **Focused and Targeted Data** – Purposive sampling enables the data obtained to be more structured, focused, and relevant to the research objectives (Creswell & Creswell, 2023).

Questionnaire and Interviews

The questionnaire served as the primary source for this study's findings. It was divided into several sections:

1. Demographic section with 8 questions.
2. Preschool teachers' pedagogical knowledge with 13 questions.
3. Third language content knowledge of preschool teachers with 12 questions.
4. Relationship between pedagogical and content knowledge of preschool teachers teaching L3 with 7 questions.
5. Open-ended questions aligned with the interview protocol, consisting of 5 questions.

Interviews further supported the researcher's understanding of the context of third language teaching in preschools, including aspects of school culture, work environment, and actual teaching practices. To achieve this, the researcher prepared 5 high-quality questions through careful planning. In designing the interview questions, the researcher followed Seidman's (1998) recommendations, which emphasize several aspects for conducting interviews: i) purpose of the interview, ii) structured format, iii) validity, iv) refinement, v) ethics, vi) techniques, and vii) data analysis from interviews.

Research Findings

The demographic analysis aimed to provide a comprehensive overview of the respondents' backgrounds. The demographic aspects studied included age, educational level, field of study, teaching experience, school location, participation in pedagogical training courses and third language knowledge courses, as well as the type of third language taught in the preschool environment. Understanding the respondents' demographic profiles is essential to evaluate the actual research context, particularly in analyzing teaching trends and approaches among preschool teachers.

Table 1: Distribution of Respondents' Demographics

Age	Below 25 tahun	16	10.8
	25-34	59	39.9
	35-44	40	27.0
	45-54	25	16.9
	Above 55	10	5.4
Level of Education	Diploma	60	40.5
	Degree	81	54.7
	Master	9	4.8
	Doctorate	0	0
Major or Field of Study	Early Childhood Education	75	50.7
	Awal Kanak-Kanak	26	17.6
	Primary Education	19	12.8
	Language studies	30	18.9
	Others	44	29.7
Teaching Experience	Less than 1 year	33	22.3
	1-3 years	26	17.6
	4-6 years	24	16.2
	7-10 years	23	14.2
	More than 10 years	77	52.0
School Location	City	73	48.0
	Rural	23	15.5
Number of Pedagogy Courses Attended During Service	Never	46	31.1
	1 to 2 times	37	25.0
	3 to 4 times	20	13.5
	5 to 6 times	24	14.9
	More than 6 times	58	39.2
Number of Third Language Content Knowledge Courses Attended During Service	Never	47	31.8
	1 to 2 times	27	18.2
	3 to 4 times	10	6.1
	5 to 6 times	8	4.7
	More than 6 times	19	12.2
Third Language Taught in TABIKA/TADIKA/Preschool	Chinese	19	12.8
	Tamil	91	61.5
	Arabic	21	13.5
	Other languages		

Table 2 above shows the distribution of respondents' demographics involved in this study. The majority of respondents were aged between 25 and 44 years, with the highest qualification being a Bachelor's Degree (54.7%). A total of 50.7% specialized in Early Childhood Education, and most had between 1 and 6 years of teaching experience. Respondents who had attended pedagogy and third language content knowledge courses between one and four times represented the largest group, accounting for 85% of the study sample. The most widely taught third language in TABIKA and TADIKA preschools was Arabic (61.5%)

Item 1: Level of Preschool Teachers' Pedagogical Knowledge

The following table presents the findings for the first objective, which is to identify the level of preschool teachers' pedagogical knowledge. It consists of 13 items aligned with the questionnaire distributed to the respondents.

Table 2: Mean, Mean Score, and Standard Deviation of Preschool Teachers' Pedagogical Knowledge.

No.	Item – Preschool Teachers' Pedagogical Knowledge	Mean	Mean Score	Standard Deviation
1	I know how to assess students' performance in the classroom.	4.14	High	0.57

2	I can modify teaching methods based on students' level of understanding.	4.10	High	0.57
3	I can use various teaching approaches in the classroom.	4.16	High	0.52
4	I can easily detect common mistakes made by students.	4.10	High	0.52
5	I am familiar with students' misconceptions.	3.91	High	0.63
6	I know how to manage the classroom effectively.	4.14	High	0.58
7	I can assess students' learning in various ways.	4.11	High	0.54
8	I know how to maintain good classroom management.	4.12	High	0.55
9	I can adjust my teaching style to different students.	3.97	High	0.59
10	I can teach effectively based on students' listening skills in the Third Language.	3.85	High	0.70
11	I can teach effectively based on students' reading skills in the Third Language.	3.83	High	0.71
12	I can teach effectively based on students' speaking skills in the Third Language.	3.79	High	0.71
13	I can teach effectively based on students' writing skills in the Third Language.	3.83	High	0.75
Overall Mean		4.00	High	

Table 2 shows that the level of preschool teachers' pedagogical knowledge in teaching the third language (B3) is generally at a high level. This is reflected by the high mean values across all the analyzed items, with most mean scores falling within the high category, although there is slight variation in the standard deviation (ranging from 0.57 to 0.75), indicating minor differences in teachers' confidence and mastery of certain aspects of pedagogical knowledge.

The findings demonstrate that preschool teachers (PTs) possess strong knowledge of their roles in providing a conducive learning environment, applying approaches appropriate to children's developmental stages, and effectively using teaching aids (BBM) to support B3 instruction. This knowledge also includes the ability to adapt teaching styles to accommodate learner diversity, implement student-centered teaching and learning (T&L) strategies, and apply enjoyable teaching methods in B3 lessons.

In addition, the findings indicate that PTs have knowledge in guiding children to acquire the four fundamental language skills—listening, speaking, reading, and writing—in B3, which are essential components of progressive B3 teaching and acquisition. Teachers' ability to apply these skills in T&L helps children to build a more holistic mastery of B3, increase their confidence in using the language, and practice it in their daily communication.

These findings are consistent with **Piaget's constructivist theory (1973)**, which emphasizes active learning through concrete experiences, and **Vygotsky's social constructivist theory (1978)**, which highlights the role of social interaction in language learning. Through these approaches, preschool teachers are able to provide learning that is developmentally appropriate, guide children in acquiring B3 gradually, and apply **scaffolding** to help them understand and use the third language in everyday situations.

Item 2: Preschool Teachers' Content Knowledge in Third Language Teaching

The following items in the questionnaire measure preschool teachers' content knowledge of the third language, based on the second objective of this study, which is to examine teachers' content knowledge in implementing third language instruction.

Table 3: Mean, Mean Score, and Standard Deviation of Preschool Teachers' Content Knowledge in Third Language Teaching

No.	Item – Preschool Teachers' Content Knowledge in Third Language Teaching	Mean	Mean Score	Standard Deviation
1	I have sufficient knowledge in the Third Language I teach.	3.55	Moderate	0.94
2	I have sufficient knowledge about the objectives of Third Language education.	3.54	Moderate	0.94
3	I have sufficient knowledge about the language structure I teach.	3.63	Moderate	0.84
4	I have sufficient knowledge about the curriculum of the language I teach.	3.66	Moderate	0.84
5	I can use my knowledge of the Third Language as a way of thinking.	3.60	Moderate	0.89
6	I have various ways to enhance my understanding of the Third Language knowledge I possess.	3.57	Moderate	0.88
7	I have sufficient knowledge of basic listening skills in the Third Language I teach.	3.54	Moderate	0.97
8	I have sufficient knowledge of basic speaking skills in the Third Language I teach.	3.58	Moderate	0.98
9	I have sufficient knowledge of basic reading skills in the Third Language I teach.	3.56	Moderate	0.97
10	I have sufficient knowledge of basic writing skills in the Third Language I teach.	3.57	Moderate	0.98
11	I have sufficient knowledge of Third Language syntax (grammar).	3.52	Moderate	0.97
12	I have sufficient knowledge of the Third Language vocabulary I teach.	3.56	Moderate	0.99
Overall Mean		3.57	Moderate	

Based on the overall findings in Table 3, the level of preschool teachers' content knowledge in teaching the third language is at a moderate level, with an overall mean score of 3.57. This indicates that preschool teachers possess adequate content knowledge to manage third language instruction; however, there remains room for improvement in strengthening their in-depth mastery of content to ensure the effectiveness of language teaching among preschool children.

Overall, the teachers' content knowledge encompasses aspects such as educational goals, language structure, curriculum, and the fundamental skills of listening, speaking, reading, and writing, as well as syntax and vocabulary, which serve as the foundation for third language teaching. Such knowledge is crucial in enabling teachers to plan, implement, and evaluate language instruction effectively, while also supporting children's progressive language development (Nation, 2020; Justice et al., 2021).

In the context of **Piaget's constructivist theory (1970)**, children build their third language knowledge gradually based on their cognitive development, with teachers playing a key role in providing concrete, repetitive, and developmentally appropriate learning experiences. For example, in vocabulary instruction, teachers need to use real objects or pictures to help children understand the meaning and use of words more clearly. Meanwhile, in grammar instruction, teachers should introduce simple sentence structures first before progressing to more complex ones, allowing children to acquire language structures naturally (Berk, 2023).

From the perspective of **Vygotsky's social constructivist theory (1978)**, third language learning can be enhanced through social interaction, peer collaboration, and teacher guidance within the Zone of Proximal Development (ZPD). Teachers with strong content knowledge can provide scaffolding in instructional activities such as shared reading, role play, and storytelling, which enrich children's vocabulary and grammar acquisition in engaging contexts (Lee & Huang, 2021; Ganuza & Hedman, 2020). Active social interaction enables children to apply the third language in their daily communication, thereby boosting their confidence in language use.

Recent studies also emphasize that strong teacher content knowledge contributes to creating a rich and interactive language learning environment. Moats (2020) and Silverman et al. (2022) highlight that teachers need to master the third language content being taught in order to select appropriate teaching strategies, design learning activities suited to context, and encourage active language use among children. At the same time, the moderate findings suggest that preschool teachers require continuous professional development to deepen their understanding of more complex aspects of third language content, such as grammar, low-frequency vocabulary, and the use of language in authentic situations (Harris, 2023).

In conclusion, preschool teachers' content knowledge in third language teaching plays a vital role in ensuring progressive, enjoyable, and developmentally appropriate teaching and learning experiences. Through a constructivist approach, teachers not only deliver language content but also guide children in actively and contextually building their understanding and skills in the third language within meaningful learning situations. These findings serve as an indicator that strengthening teacher training and support in the area of third language content is essential for enhancing the overall quality of third language education in preschools in a holistic and effective manner.

Item 3: Preschool Teachers' Pedagogical and Content Knowledge in Implementing Third Language Instruction

Table 4: Mean, Mean Score, and Standard Deviation of Preschool Teachers' Pedagogical Content Knowledge in Third Language Teaching

No.	Item – Preschool Teachers' Pedagogical Content Knowledge in Third Language Teaching	Mean	Mean Score	Standard Deviation
1	I have sufficient knowledge of the Third Language curriculum to implement the teaching and learning process.	3.52	Moderate	1.00
2	I know how to select effective teaching approaches to guide students in learning the Third Language.	3.54	Moderate	0.95
3	I know the objectives of the Third Language teaching and learning process in the National Preschool Standard Curriculum (KSPK).	3.60	Moderate	0.98
4	I know the aims of Third Language teaching and learning (KSPK) in implementing the teaching process.	3.63	Moderate	0.94
5	I know the appropriate teaching strategies for each topic in the Third Language curriculum.	3.59	Moderate	0.98
6	I know the assessment methods that need to be implemented in the Third Language teaching and learning process.	3.57	Moderate	0.96
7	I know the level of students' learning outcomes during the Third Language teaching and learning process.	3.69	Moderate	0.90
Overall Mean		3.59	Moderate	

Findings for Objective Three

The analysis for Objective Three shows that preschool teachers' knowledge of third language (B3) teaching in implementing the teaching and learning process (PdP) is at a moderate-to-high level, with mean scores ranging from 3.52 to 3.69 and standard deviations between 0.90 and 1.00. These findings suggest that teachers possess awareness, basic understanding, and the ability to implement B3 instruction based on the curriculum and children's developmental needs. However, there remains a need to strengthen this knowledge through ongoing professional training.

Teachers demonstrated good knowledge of the objectives and aims of B3 instruction as outlined in the *Kurikulum Standard Prasekolah Kebangsaan (KSPK)*. Nevertheless, their understanding of appropriate teaching strategies and assessment methods according to specific topics requires further enhancement in order to deliver B3 instruction more creatively, flexibly, and in a learner-centered manner. Knowledge related to pupils' learning outcomes during instruction was also at a moderately high level, showing that teachers are able to monitor B3 acquisition but still require more systematic support in applying authentic assessment techniques.

These findings are consistent with **Piaget's constructivist theory (1970)**, which emphasizes that preschool children are at the preoperational stage and therefore require concrete learning experiences to build meaningful understanding. Teachers' knowledge in selecting appropriate approaches, strategies, and teaching methods is crucial for helping children gradually acquire B3 through concrete activities such as play-based learning, storytelling, singing, and language games. At the same time, **Vygotsky's social constructivist theory (1978)** highlights that third language acquisition is most effective through social interaction within the child's Zone of Proximal Development (ZPD), supported by scaffolding from teachers and peers. Teachers' knowledge of assessment methods and learning outcomes enables them to provide immediate feedback and guide children to use B3 in a natural, enjoyable, and stress-free way.

Contemporary studies (Moats, 2020; Nation, 2020; Justice et al., 2021; Harris, 2023; Silverman et al., 2022) also reinforce that the effectiveness of B3 teaching at the preschool level depends on teachers' understanding of the curriculum, learning objectives, teaching strategies, and learner-centered assessment approaches. Strong knowledge allows teachers to implement instruction that is constructivist, contextual, engaging, and progressive, thereby supporting children in mastering B3 actively within a positive learning environment.

In conclusion, preschool teachers' knowledge of B3 teaching in PdP is satisfactory but requires ongoing enhancement. Focused professional training is necessary to deepen teachers' understanding of how to implement B3 instruction that aligns with child development, consistently applies constructivist approaches, and utilizes formative assessment to ensure effective teaching and achievement of the holistic learning objectives outlined in KSPK.

Interview Findings

This section presents findings from structured interviews conducted with ten preschool teachers in Perak. The interviews aimed to address the research question concerning the relationship between preschool teachers' pedagogical and content knowledge in implementing third language teaching. The data were analyzed thematically according to the structured interview questions, and five main themes emerged.

1. Teaching Strategies for Third Language Instruction
Most teachers reported that play-based learning was the main strategy for introducing B3 to preschool children. This strategy included activities such as singing, storytelling, interactive games, and the use of visual and audio materials. Respondents highlighted that enjoyable and informal approaches enhanced children's motivation and interest in learning. For example, Respondent 1 used music and movement to teach B3, while Respondent 6 employed mobile applications with B3 vocabulary audio. Respondent 10 incorporated virtual tours of B3-speaking countries using images as teaching aids. These strategies illustrate teachers' awareness of learner-centered and experiential methods for effective B3 instruction.

2. Techniques for Assessing Third Language Development
Most teachers used informal observation, checklists, and portfolios as the main mechanisms for evaluating children's B3 development. Respondent 2 recorded children's weekly pronunciation of B3 words to track improvement, while Respondent 3 employed word mastery checklists. Respondent 5 used question-and-answer sessions during shared reading to assess comprehension. Respondent 3 also recorded children's work samples as authentic evidence of progress. These findings show that teachers favored ongoing, formative assessment over formal methods, aligning with the holistic developmental needs of preschool children.

3. Fundamental Principles in Teaching a Third Language
Teachers generally understood that B3 instruction requires a flexible, consistent, and natural approach. Respondent 2 emphasized early and consistent exposure to make children more comfortable using B3 in daily

routines. Respondent 3 stressed the importance of age-appropriate, engaging activities to prevent stress in language learning. Respondents also highlighted the value of multimodal instruction—combining visual and auditory aids—while Respondent 5 noted that repeated exposure to vocabulary across various contexts helps children acquire B3 naturally. This reflects teachers' awareness of developmental language principles and responsive pedagogy.

4. Approaches to Introducing Vocabulary

Vocabulary was primarily introduced through contextual repetition, real objects, picture cards, and visual media such as videos and puppets. For example, Respondents 3, 4, and 7 used picture-based methods, while Respondent 9 innovatively used cooking ingredients to teach B3 vocabulary. These approaches highlight the emphasis on concrete and engaging teaching aids to help children directly connect words with meaning.

5. Role of Culture in Third Language Teaching

All respondents acknowledged the importance of cultural integration in B3 instruction. Respondents 1 and 9 incorporated B3 music, while Respondents 2 and 10 used traditional clothing from B3-speaking countries during lessons. Respondent 8 used batik motifs from a B3 country as teaching material. These examples illustrate teachers' ability to integrate cultural elements into learning activities, creating authentic and contextualized experiences for children.

Overall, the interview findings show that preschool teachers apply a range of innovative, child-centered approaches in teaching B3. Play-based strategies, continuous formative assessment, responsive pedagogical principles, contextual vocabulary instruction, and creative cultural integration are key elements contributing to effective B3 teaching at the preschool level.

Comparison of Relationships

Relationship between Preschool Teachers' Pedagogical Knowledge and Content Knowledge in Implementing Third Language Instruction

Correlation

Table 5: Classification of Relationship / Strength of Correlation Based on Cohen (1988)

Value r	Classification of Relationship / Strength of Correlation
0.10 to 0.29	weak
0.30 to 0.49	moderate
0.50 to 1.0	strong

$+1.00 < r < -1.00$

Based on Table 5, Pearson's correlation analysis was conducted to examine the relationships among twelve variables, specifically Pedagogical Knowledge, Content Knowledge, and Pedagogical Content Knowledge. The analysis revealed a strong positive relationship between Pedagogical Knowledge and Content Knowledge, with a correlation coefficient of $r = 0.532$ (53.2%) at the 99% confidence level. This indicates a statistically significant and strong association between these two variables.

Similarly, the relationship between Content Knowledge and Pedagogical Knowledge yielded the same correlation value ($r = 0.532$), further confirming the strength and consistency of the association. In addition, the analysis demonstrated a very strong positive relationship between Content Knowledge and Pedagogical Content Knowledge, with a correlation coefficient of $r = 0.909$ (90.9%) at the 99% confidence level. According to Cohen's (1988) classification, this reflects a strong correlation.

Overall, the Pearson correlation results indicate that higher levels of content knowledge among preschool teachers are strongly associated with higher levels of pedagogical content knowledge, underscoring the interdependence of these knowledge domains in the implementation of third language instruction.

	Pearson Correlation Sig. (2-tailed) N	Pedagogical Knowledge	Content Knowledge	Pedagogical Content Knowledge
Pedagogical Knowledge	Pearson Correlation Sig. (2-tailed) N	1 148	.532** .000 148	.489** .000 148
Content Knowledge	Pearson Correlation Sig. (2-tailed) N	.532** .000 148	1 148	.909** .000 148
Pedagogical Content Knowledge	Pearson Correlation Sig. (2-tailed) N	.489** .000 148	.909** .000 148	1 148

**Significant correlation at the 0.01 level (2-tailed)

Triangulation

The triangulation employed in this study successfully strengthened the validity and reliability of the findings through cross-verification between qualitative data and quantitative results (Creswell & Plano Clark, 2022; Merriam & Tisdell, 2023). Qualitative data obtained from structured interviews with preschool teachers supported and elaborated on the quantitative findings derived from the questionnaire, demonstrating alignment between teachers' theoretical knowledge and their actual classroom practices in third language (L3) instruction. The findings indicate that preschool teachers not only understand the concepts and theories related to pedagogical knowledge and L3 content knowledge, but are also able to apply this knowledge in practice through innovative approaches that are appropriate to children's developmental stages. Teachers were observed to employ a variety of active learning strategies, such as learning through play, songs, storytelling, the use of culturally based teaching materials, and learner-centred activities, to enhance pupils' interest and proficiency in L3 (Azman & Cheong, 2021; Lee et al., 2023).

In addition, triangulation enabled a deeper understanding of the real-world context of L3 teaching implementation in preschools, including challenges faced by teachers such as time constraints, differences in pupils' levels of L3 proficiency, and the need for more relevant and contextualised teaching and learning materials. This is consistent with the findings of Noor et al. (2023), who emphasised that collaborative learning approaches and the use of contextual materials can enhance the effectiveness of L3 instruction at the preschool level. Overall, the use of triangulation in this study not only enhanced the integrity of the research findings but also provided a more holistic and practical depiction of preschool teachers' pedagogical and content knowledge in L3 teaching. This, in turn, enables the study to make a significant contribution to the strengthening of teacher training, the development of L3 instructional modules, and the improvement of early childhood language education policy.

DISCUSSION

Overall, this study underscores the critical role of preschool teachers' pedagogical knowledge and content knowledge in the effective implementation of third language instruction at the early childhood level. Pedagogical knowledge enables teachers to select developmentally appropriate approaches, diversify engaging instructional strategies, and create a supportive, learner-centred learning environment. Meanwhile, strong content knowledge allows teachers to present the third language accurately, systematically, and meaningfully, ensuring that learners receive high quality linguistic input throughout the learning process. Together, these two forms of knowledge not only shape instructional practices but also demonstrate a significant relationship with teaching effectiveness, which in turn directly influences children's learning outcomes.

By situating these findings within broader discussions on early multilingual pedagogy, this study contributes novel empirical evidence to ongoing debates on how teacher knowledge mediates the success of third language education in preschool contexts, particularly within multilingual societies such as Malaysia. The results support

regional and international arguments that early exposure to additional languages, when delivered through systematic and enjoyable instruction, enhances young learners' capacity to develop foundational communicative competence. This aligns closely with the aspirations of Malaysia's education reforms and language-in-education policies that promote multilingualism from an early age.

Importantly, the study also reveals areas requiring further improvement in preschool third language teaching, particularly in teachers' mastery of language content and the application of innovative, contextualised pedagogical approaches. These findings highlight the need for sustained and coordinated efforts by stakeholders including the Ministry of Education Malaysia, State Education Departments, teacher education institutions, and preschool management to strengthen teacher capacity through structured professional development, continuous mentoring, and professional learning communities. Such initiatives should prioritise the enhancement of third language content knowledge, the use of relevant instructional materials, the application of constructivist pedagogical approaches, and the meaningful integration of educational technology to improve instructional effectiveness.

From a methodological perspective, future research should build on this study by incorporating more rigorous reporting of instrument reliability (such as Cronbach's alpha), validity procedures, sampling justification, and ethical approval details to further strengthen research transparency and credibility. In addition, expanding the analytical framework through regression analysis or structural equation modelling would provide deeper insights into the relationships among pedagogical knowledge, content knowledge, and instructional effectiveness. Such approaches would allow for a more nuanced understanding of causal pathways and mediating factors in early third language education.

Finally, further studies across diverse institutional and regional contexts are recommended to enrich the empirical base and inform evidence-driven policy and teacher training initiatives. Strengthening the theoretical positioning through engagement with more recent, high-impact international literature will also enhance the scholarly contribution of future work. Through these sustained efforts, third language education at the preschool level can be continuously strengthened, ultimately equipping young learners with a solid foundation in multilingual literacy and preparing them to meet the demands of global communication and national human capital development.

CONCLUSION

This study confirms that preschool teachers' pedagogical knowledge and content knowledge are fundamental to the effective implementation of third language instruction in early childhood education. The findings demonstrate that these knowledge domains significantly influence instructional quality and children's learning outcomes, highlighting the importance of well-prepared teachers in supporting early multilingual development. The study contributes empirical evidence to the field of early multilingual pedagogy within the Malaysian context and underscores the need for continued professional development, evidence-based policy support, and further research to strengthen third language education at the preschool level. Collectively, these efforts are essential to ensuring sustainable and effective multilingual education that equips young learners with the foundational competencies required for future global communication.

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