

RESEARCH ARTICLE

Challenges and Solutions for Pre-Service Bilingual Teachers in English Teaching Competency in the Greater Bay Area, China

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ABSTRACT – The current study investigates the primary obstacles and approaches to effectively addressing English-teaching competencies among pre-service bilingual educators in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA), China. The study employed a quantitative survey approach to collect data from 40 students majoring in Early Childhood Education at a vocational institution in Guangdong, China. The study utilised a custom-designed questionnaire to examine the significant problems and potential solutions encountered by pre-service teachers in developing multilingual teaching skills. Data analysis identified three primary challenges: inadequate English language competency among pre-service teachers, an absence of effective bilingual pedagogical techniques and practices, and variability in children's language proficiency and learning capabilities. The findings also indicate that the educational system, future training, and educational policies must be enhanced to facilitate effective English instruction by bilingual instructors. The findings emphasise training in real-world teaching skills, providing additional internships and hands-on experience opportunities, and offering more comprehensive training in teaching strategies and methods. The results of this study provide a critical foundation for improving educational policies to address the developmental needs of pre-service bilingual teachers. Consequently, the quality of bilingual education and educators' professional skills in the GBA have significantly improved. The findings provide implications for improving policies and training to better support pre-service bilingual teachers in the GBA.

ARTICLE HISTORY

Received: 12 March 2025

Revised: 20 January 2026

Accepted: 11 February 2026

Published: 14 February 2026

KEYWORDS

Bilingual teachers

China

Competency

English teaching

Pre-service teachers

1.0 INTRODUCTION

Against the backdrop of ongoing globalisation and the rapid development of artificial intelligence, bilingual education has attracted international attention. This trend is particularly evident in China's Guangdong-Hong Kong-Macao Greater Bay Area (GBA). As a region characterised by multilingualism and multicultural integration, the GBA is home to Mandarin, Cantonese, English, and various other dialects (Qu, 2020). Alongside the deepening development of the GBA, the importance of bilingual education, especially in Chinese and English, has been steadily rising. Bilingual education not only promotes young children's language development but also enhances their intercultural communication skills and global competitiveness (Castro et al., 2025).

Empirical evidence from recent research indicates that Chinese parents commonly hold positive beliefs about the importance of early English education and actively support their children's English learning activities, even in contexts where external English instruction is restricted, suggesting a strong parental emphasis on bilingual development and English proficiency (Li et al., 2025). Against the backdrop of growing societal expectations for early childhood bilingual competence, preschool teachers, who play a pivotal role in early childhood education, must possess strong bilingual teaching skills, which are key to delivering high-quality bilingual education in the preschool stage (Du et al., 2024).

1.1 Pre-service Bilingual Teachers in English's Challenges

Previous research indicates that pre-service teachers encounter significant challenges during teacher preparation, particularly related to language proficiency and instructional self-efficacy. For example, Dzormeku et al. (2024) found that pre-service teachers faced various linguistic challenges, including limited vocabulary, pronunciation difficulties, and grammatical issues, which negatively affected their confidence and teaching effectiveness in English-medium instruction contexts. Beyond English language proficiency, a lack of effective bilingual teaching strategies, and the diverse linguistic abilities and learning needs of young children are aspects that deserve attention (Yang & Wang, 2023). These challenges not only hinder the effective establishment of bilingual education systems in kindergartens but also constrain the overall improvement in the quality of early childhood bilingual education in the Greater Bay Area (Yang & Wang, 2023). Therefore, exploring the core difficulties in enhancing English teaching competence among pre-service bilingual teachers and proposing effective strategies is of significant practical importance for optimising pre-service teacher training systems and educational policies, as well as for improving teacher professionalism and the quality of bilingual education.

The existing literature also highlights specific strategies to address the challenges pre-service bilingual teachers currently face. For instance, one study underscores the importance of broadening the role of preschool educators beyond merely foreign language instruction, advocating for additional roles such as interactive communicator and translanguaging facilitator, which were identified

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during an in-service training program in Turkey (Dikilitaş & Mumford, 2020). A qualitative study involving 15 pre-service CLIL teachers at the University of Cádiz in Spain found that training in bilingual teaching skills is both practical and essential for pre-service teachers (Zayas-Martínez et al., 2024). Another study suggests that bilingual pedagogy in early childhood education should capitalise on everyday routines and playtime, using these contexts to enhance children's language learning through practical and recurrent experiences (Hansell & Björklund, 2022). Furthermore, research on the CLIL (Content and Language Integrated Learning) program at the University of Granada reveals that pre-service teachers feel ill-prepared for bilingual education at the preschool level, particularly regarding their communicative skills, which are crucial for the effective implementation of CLIL (Cortina-Pérez & Pino Rodríguez, 2022). These findings collectively highlight the need for targeted training strategies to strengthen both theoretical knowledge and practical competencies among pre-service bilingual teachers.

In China, bilingual teachers face numerous challenges in teaching practices. A synthesised review of scholarship published between 2012 and 2022 on pre-service early childhood teachers' English-teaching challenges and pedagogical orientations shows that practitioners face multiple, interlocking obstacles when delivering English instruction. These characteristics significantly impact educators' effectiveness and primary school students' language acquisition outcomes (Mohamad et al., 2024). Another study explored new strategies to enhance preschool teachers' English teaching capabilities, emphasising practical English-speaking skills and creating an engaging classroom atmosphere to facilitate effective English learning among young children. A study has shown that preschool English teachers should continually update their teaching methods and design creative activities for children that align with their developmental stage (Qiu, 2023).

The challenges identified in this study, namely insufficient English language proficiency, limited use of effective bilingual pedagogical strategies, and difficulties in responding to children's heterogeneous language abilities, can be primarily attributed to deficiencies across these core competency domains. In particular, underdeveloped pedagogical and technological competencies constrain pre-service teachers' ability to design engaging, learner-centred, and developmentally appropriate English learning activities. At the same time, limitations in subject-matter competence reduce their confidence and effectiveness in using English as the medium of instruction. Accordingly, the challenges encountered by pre-service bilingual teachers should be understood not as isolated skill-based problems, but as manifestations of an interconnected set of competency gaps that are critical to contemporary bilingual and EFL teaching contexts.

The present study focuses on the Guangdong-Hong Kong-Macao Greater Bay Area (GBA), whose unique geographical, historical, and multilingual cultural context makes it an ideal site for investigating bilingual education (Wen et al., 2022). The intricate interplay of languages and cultures in the GBA, along with the challenges encountered in language policy and educational practices, underscores the need for this contextual backdrop in bilingual education research. By exploring the issues related to the English-teaching competence of pre-service bilingual teachers in this region, this study aims to propose concrete strategies not only to address the educational challenges within the GBA but also to offer insights for educational reform in other multilingual and multicultural areas.

As demand for bilingual education increases, it is essential to identify the factors contributing to the challenges pre-service teachers face and determine effective solutions. Investigation in this domain is crucial as it will improve the effectiveness of pre-service bilingual educators in pedagogy, theoretical understanding, practical implementation, and English competence. Methods must be identified to promptly prepare pre-service bilingual teachers for the classroom, ensuring they have the tools to effectively instruct multilingual children (Aoife & Beatriz, 2021). It will comprehensively enhance the teaching quality and the level of multilingual instruction in kindergartens across the Guangdong-Hong Kong-Macao Greater Bay Area (GBA). By researching these topics, pre-service teachers are better prepared to meet the challenges of bilingual education. This initiative will effectively advance students' learning and help the region achieve its more ambitious educational and economic goals.

1.2 Competency-Based Education (CBE) Model and the Theory of Multilingualism in Education

The theoretical framework of this study is grounded in the Competency-Based Education (CBE) model and the theory of multilingualism in education. Through these dual lenses, the research provides an in-depth analysis of the challenges and potential solutions to the English-teaching competence of pre-service bilingual teachers in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA). The CBE model fundamentally shifts the focus from time-based or course-completion metrics toward the demonstration of specific, measurable teaching competencies. When analysing the challenges, the study concurs with Zeng et al. (2025), who highlight that pre-service teachers' teaching competence is a multidimensional construct encompassing skills, content knowledge, social competencies, and technological proficiency. These dimensions align closely with contemporary frameworks for teacher education.

This study applies the CBE model to enhance bilingual teachers' English teaching competence, proposing that this competence should be assessed and developed across key domains, including linguistic proficiency, bilingual pedagogical knowledge, classroom management, and the effective integration of educational technology. Informed by the theory of multilingualism in education, bilingual teachers are conceptualised as needing the capacity to mediate, complement, and coordinate between languages (Cummins, 2021). It is particularly crucial in linguistically diverse classrooms, where teachers must adapt their instructional strategies in response to students' varying language proficiencies. Beyond possessing sufficient language skills themselves, Gitschthaler et al. (2024) asserted that teachers must be able to design and implement pedagogical activities that are inclusive of multilingual learners, ensuring all students receive appropriate linguistic support. The requirements demand that pre-service bilingual teachers not only develop their own English proficiency but also acquire the pedagogical expertise to effectively foster their students' language development and intercultural competence through principled bilingual teaching approaches.

In this study, English teaching competency is conceptualised as a multidimensional construct comprising the professional knowledge, skills, and abilities required for pre-service bilingual teachers to effectively deliver English instruction in early childhood

bilingual settings within the Greater Bay Area. This construct includes, but is not limited to, English language proficiency, bilingual pedagogical knowledge, practical classroom implementation skills, and the capacity to adapt instruction to young children's diverse linguistic backgrounds and learning needs. Informed by existing literature on teacher competency and 21st-century EFL education, Nurhidayat et al. (2024) asserted that these competencies can be categorised into four interrelated domains:

1. Pedagogical competence, which involves lesson planning, classroom management, and developmentally appropriate instructional strategies;
2. Professional or subject-matter competence, referring to teachers' English proficiency and mastery of teaching content and materials;
3. Social competence, encompassing effective communication and interaction with children, colleagues, and other educational stakeholders.
4. Technological competence, defined as the ability to appropriately integrate digital tools and resources to support English language learning.

This study aims to explore the key challenges pre-service bilingual teachers face in developing English-teaching competency within the Guangdong–Hong Kong–Macao Greater Bay Area and to identify strategies to enhance their English-teaching proficiency. By addressing these challenges and proposing practical solutions, this study aims to improve the overall quality of bilingual education in the region. This study is guided by the following research questions in consideration of the aforementioned factors:

1. What are the key challenges that pre-service bilingual teachers encounter in developing English teaching competency in the Guangdong–Hong Kong–Macao Greater Bay Area?
2. What strategies can be implemented to enhance the English teaching competency of pre-service bilingual teachers to improve bilingual education quality?

2.0 METHODOLOGY

2.1 Research Design and Sampling

The current study adopted a quantitative survey design to systematically explore the challenges pre-service bilingual teachers face in cultivating English teaching competency in the Guangdong–Hong Kong–Macao Greater Bay Area (GBA), China, and to propose practical improvement strategies. A convenience sampling approach was used to recruit participants who were accessible and relevant to the research purpose. The research sample consisted of 40 sophomore students majoring in Preschool Education at a vocational college in Guangdong Province. These participants were selected because they are being trained as future bilingual educators and are currently developing their English teaching competency through coursework, teaching-related training, and practicum preparation. All participants had completed foundational courses in early childhood education and introductory English-related subjects, making them appropriate respondents for this study.

2.2 Research Instrument

The primary research instrument was a questionnaire developed by the researcher, consisting of two parts: (a) challenges encountered in the process of acquiring English teaching competency, and (b) solutions for improving this competency. The items in the questionnaire were formulated through an in-depth review of the literature on bilingual education and language teaching, combined with consultations with experts in bilingual teacher training. This process ensured the relevance and comprehensiveness of the items, enabling them to cover key aspects of the research topic. In the questionnaire, the severity of each challenge was rated on a 5-point Likert scale (1 = not at all severe, 5 = extremely severe). This scale was used to measure the perceived severity of the challenges pre-service bilingual teachers face in acquiring English teaching competency.

To ensure the instrument's reliability and validity, a pilot test was conducted with a sample of 30 pre-service bilingual teachers. The questionnaire's reliability was assessed using Cronbach's alpha, which yielded a value of 0.84, indicating high internal consistency. The value suggests that the questionnaire items demonstrated high reliability in measuring the intended construct and good internal coherence.

Additionally, the questionnaire's validity was evaluated through content validity (expert review), construct validity (confirming that the items measure the intended construct), and criterion-related validity (examining the relationship between the questionnaire results and existing measures of similar constructs). Based on feedback from the pilot test, the questionnaire was further refined to enhance its clarity and relevance. A team of six experts evaluated the questionnaire: two preschool education teachers from vocational colleges in Guangdong Province (with over five years of teaching experience), two educational assessment experts specialising in bilingual education and quality evaluation, and two senior lecturers engaged in English as a Second Language (ESL) teaching. These experts conducted an in-depth assessment of the questionnaire to ensure its accuracy, clarity, and comprehensiveness. They also evaluated the relevance of the items and their alignment with classroom practices and professional knowledge in language education.

In terms of the project's scope, the items were designed to reflect real-world challenges and solutions experienced by pre-service bilingual teachers. The projects mentioned refer to specific training programs, policies, and practices aimed at enhancing educators' bilingual teaching capacity in Guangdong. The findings are used to contextualise the survey and provide a more accurate representation of the needs and challenges faced by pre-service teachers in the area.

2.3 Ethical Considerations

Ethical standards were strictly followed throughout the research process. Participation in the study was voluntary, and all participants were informed of the study's purpose before data collection. Informed consent was obtained from all respondents. The questionnaire was completed anonymously, and all data were used solely for academic research purposes to ensure confidentiality and protect participants' privacy.

2.4 Data Analysis

The data collected from the questionnaire were analysed using SPSS version 27. The data consists of quantitative responses from pre-service bilingual teachers, which were analysed using descriptive statistical methods. These methods included calculating means, standard deviations, and frequency distributions to summarise participants' responses and identify key challenges and preferred solutions. Item rankings based on mean scores were used to determine the relative importance of different challenges and strategies. These analyses provided a clear quantitative overview of pre-service bilingual teachers' perceptions and experiences related to the development of English teaching competency.

3.0 RESULTS

3.1 Demographic Data

Table 1 presents the descriptive demographic data for the 40 students majoring in Early Childhood Education. In terms of age distribution, the vast majority of students (39, or 97.5%) were in the 18-21 age group. 35 were overwhelmingly female (87.5%). For the frequency of English use, 14 students (35%) reported using the language several times a day, 25 students (62.5%) reported using it at least once a day, and only one student (2.5%) reported using it occasionally. All participants had kindergarten teaching experience, which included internships and practicums. As for the likelihood of working in a kindergarten in the GBA after graduation, 29 students (72.5%) thought it was very likely, 7 (17.5%) thought it was likely, and 4 (10%) thought it was unlikely.

Table 1

Descriptive statistics for the demographic data

Item	N	%
Age		
Under 18 years old	1	2.5
18-21 years old	39	97.5
Gender		
Female	35	87.5
Male	5	12.5
Frequency of Using English		
Multiple times a day	14	35
Once a day	25	62.5
Several times a week	0	0
Occasionally	1	2.5
Seldom	0	0
Teaching Experience in Kindergarten		
Yes	40	100
No	0	0
Probability of Choosing to Work in a Kindergarten in the GBA after Graduation		
Very likely	29	72.5
Likely	7	17.5
Unlikely	4	10
Very unlikely	0	0
Attitude towards Bilingual Education in Kindergarten		
Strongly support	28	70
Support	10	25
Neutral	1	2.5
Oppose	1	2.5
Strongly oppose	0	0

Note: The total number of participants is 40.

In Table 1, up to 95% of the students supported or strongly supported bilingual education, which reflects the importance and acceptance that future teachers place on integrating a bilingual education model. The survey results show that most participants held a supportive attitude toward bilingual education. Specifically, 28 students (70%) strongly supported bilingual education, and 10 students (25%) supported it. One participant (2.5%) reported a neutral attitude, and one participant (2.5%) reported an opposing attitude.

3.2 The Main Challenges Faced by Pre-Service Teachers in Bilingual Teaching Abilities in GBA Kindergartens

The present study conducted a quantitative analysis of the respondents' ratings on the severity of challenges in bilingual teaching. The severity of each challenge was rated on a 5-point scale (1 = Not severe at all, 5 = Extremely severe), and the mean and standard deviation for each challenge were calculated. A higher mean indicates that the challenge is considered more severe, while a more minor standard deviation indicates more consistent opinions among respondents.

Table 2

Mean and standard deviation of challenges in bilingual teaching in kindergartens

Challenges	Mean	SD	Ranking
Insufficient English language proficiency of pre-service teachers	3.90	0.90	1
Lack of effective bilingual teaching methods and strategies	3.75	0.95	2
Differences in children's language levels and learning abilities	3.65	0.77	3
Incomplete understanding of bilingual education theory and practice	3.60	0.93	4
Inadequate educational system and training programs for current needs	3.60	1.01	5
Differences in expectations and understanding of bilingual education among parents and society	3.58	0.78	6
Challenges in cross-cultural communication and understanding	3.50	0.96	7
Insufficient materials and resources to support bilingual teaching	3.50	1.09	8
Other	3.15	0.86	9

In Table 2, it is evident that pre-service bilingual teachers consider the most severe challenge to be teachers' insufficient English language proficiency ($Mean = 3.90$, $SD = 0.90$). This challenge has the highest mean, indicating that respondents generally view teachers' English proficiency as the main barrier to bilingual teaching. Additionally, the lack of effective bilingual teaching methods and strategies ($Mean = 3.75$, $SD = 0.95$) and differences in children's language levels and learning abilities ($Mean = 3.65$, $SD = 0.77$) are significant challenges. These challenges reflect the pre-service teachers' practical difficulties in language skills, teaching methods, and student diversity.

Moderately severe challenges include an incomplete understanding of bilingual education theory and practice ($Mean = 3.60$, $SD = 0.93$) and educational systems and training programs that do not meet current needs ($Mean = 3.60$, $SD = 1.01$). These challenges have similar mean values, suggesting that pre-service teachers perceive deficiencies in the existing educational system and in the training content that support the development of bilingual teaching capabilities. Additionally, differences in parents' and society's expectations and understanding of bilingual education ($Mean = 3.58$, $SD = 0.78$) are considered a moderate challenge, reflecting external environmental factors influencing bilingual teaching.

Relatively minor challenges include cross-cultural communication and understanding ($Mean = 3.50$, $SD = 0.96$) and the lack of materials and resources to support bilingual teaching ($Mean = 3.50$, $SD = 1.09$). Although these challenges have lower means, they should not be overlooked, especially the challenge of insufficient materials and resources, which has a high standard deviation ($SD = 1.09$), indicating considerable disagreement among respondents. Lastly, other challenges ($Mean = 3.15$, $SD = 0.86$) have the lowest mean, suggesting that respondents did not mention other significant challenges.

In the 'Other' option, some students indicated that a lack of support from school management was a significant challenge, specifically manifested as insufficient time allocated for bilingual curriculum planning and inadequate support for bilingual education initiatives. Furthermore, scarce opportunities for professional development emerged as another common feedback, with many students noting that the limited availability of professional development programs specifically targeting bilingual education made it difficult for teachers to enhance their teaching strategies and language proficiency.

In summary, the study identified several key challenges faced by pre-service bilingual teachers in GBA kindergartens. The most severe challenge, as reported by the respondents, is teachers' insufficient English proficiency, followed by the lack of effective bilingual teaching methods and strategies, and the varying language levels and learning abilities of children. These challenges highlight the practical difficulties teachers face in terms of language proficiency, teaching strategies, and managing diverse student needs. Additionally, pre-service teachers noted both moderately severe and lesser challenges. Overall, these findings suggest that pre-service teachers in the GBA region face a complex array of challenges that need to be addressed to enhance bilingual teaching competency.

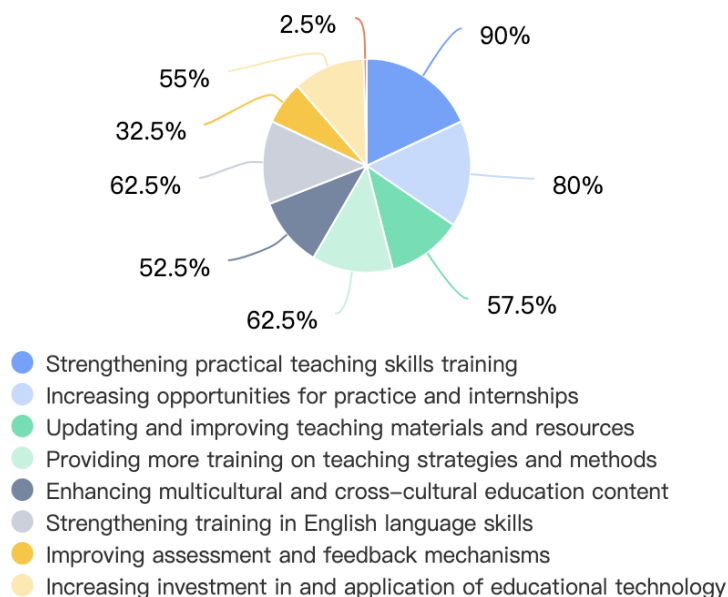
3.3 The Suggested Solutions to Enhance the Pre-Service Bilingual Educators' English Teaching Competency

The suggested solutions to enhance the English teaching competency of pre-service bilingual educators were identified from the survey responses. To address this research question, the data were analysed based on three key themes: the educational system, future

training, and policies. These themes were derived from participants' short-answer responses. The results clearly indicate that these areas represent the significant weaknesses in the current training of bilingual teachers, with a strong demand from respondents for improvements in each region. From the perspective of higher education institutions and education policymakers, these themes are practical and capable of driving meaningful change in bilingual teacher training. Since this was a multiple-response question, the total percentage exceeds 100%, as participants could select more than one option. These data indicate that increases in practical teaching skills and in the number of internships received the most attention, highlighting the importance of hands-on experience in bilingual education.

Figure 1

Survey results on needs for improvement in the education system



Based on the questionnaire results, several key areas in which the current education system can effectively support the enhancement of teachers' English teaching competence can be analysed from different perspectives. First, 85% of respondents ($n=34$) indicated that the education system, through its provision of theoretical knowledge and teaching methodologies, can establish a solid pedagogical foundation for teachers. Learning theory and methods is crucial for teachers to understand the core principles of instruction and effective pedagogical strategies. An education system that offers more systematic and comprehensive theoretical training can help teachers apply a broader range of scientifically grounded methods in the classroom, thereby elevating their instructional proficiency and professional competence. Second, the survey results show that 72.5% of teachers ($n=29$) consider bilingual teaching resources (e.g., textbooks, teaching aids) to be a significant aspect of support from the education system for their English teaching capacity. The result suggests that sufficient, high-quality teaching resources can provide robust support for teachers. Particularly in bilingual education, appropriate instructional materials and supplementary tools can help teachers convey knowledge more effectively and meet diverse student learning needs.

Furthermore, 75% of teachers ($n=30$) highlighted that guidance and feedback from experienced mentors are essential for their professional growth. The finding underscores teachers' need for specific advice and suggestions from seasoned colleagues in their daily practice, particularly regarding classroom management, instructional design, and student interaction. Constructive feedback can help them continually refine their practice. An education system that establishes a well-structured mentorship program or peer guidance mechanism would significantly contribute to novice teachers' development and professionalisation. Beyond theoretical knowledge and experiential learning, the education system should also prioritise providing more practical and internship opportunities (60%, $n=24$). Such opportunities enable teachers to hone their instructional skills in authentic teaching environments, thereby boosting their confidence and pedagogical flexibility.

Regarding support in modern educational tools and technology (47.5%, $n=19$), although this demand is relatively lower, it reflects the potential of educational technology to improve teaching outcomes. With the ongoing advancement of digital technologies, modern tools, such as interactive platforms, online resources, and multimedia materials, can enhance instructional interactivity and student engagement. 65% of teachers ($n=26$) noted that peer communication and collaboration also play a vital role in their professional development. An education system that fosters more opportunities for collegial collaboration can facilitate knowledge sharing and pedagogical innovation among teachers. In summary, the education system should place greater emphasis on multifaceted support. It provides a solid theoretical foundation and highlights practical applications and resource allocation, particularly through increased efforts to offer practical teaching opportunities, promote peer collaboration, and integrate technological applications.

Figure 2 shows that expectations or suggestions for future training programs for bilingual kindergarten teachers focused on the following areas. Based on the survey results, the design of future training programs for bilingual kindergarten teachers should place greater emphasis on integrating practice and theory. The majority of respondents (80%) expressed a desire for more practical and

internship opportunities, indicating that teachers recognise the critical importance of gaining experience in authentic teaching environments to enhance their pedagogical competence. This demand for practical engagement reflects teachers' aspiration to deepen their understanding and application of bilingual education theories through direct participation in instructional activities, thereby improving their classroom management and teaching techniques. Although the expressed need to adopt modern educational tools and technologies (42.5%) is relatively low, a notable proportion of teachers still believe these tools can effectively enhance teaching efficiency, particularly in managing language input and output in bilingual instruction. Especially with the rapid advancement of educational technology, digital teaching tools can not only increase classroom interactivity but also provide data-driven feedback on teaching effectiveness, further facilitating the implementation of personalised instruction.

Figure 2

Survey results on needs for improvement in future training courses



Furthermore, the survey results underscore teachers' demand for theoretical support. 62.5% of respondents expressed a desire for systematic training in bilingual education theory, reflecting teachers' aspiration to develop a deeper understanding of pedagogical systems and methodologies. Bilingual education extends beyond the cultivation of language skills to encompass the integration of cultural contexts, cognitive development, and language acquisition theories (Acharya et al., 2024). Systematic training can help teachers establish a solid theoretical foundation, thereby better guiding their practical teaching. In addition, 75% of teachers expressed a desire to learn from experienced bilingual educators, highlighting the high value placed on peer-to-peer learning. Experienced teachers can provide novice educators with invaluable practical insights and solutions regarding instructional strategies, classroom management, and addressing diverse student needs.

Beyond this, teachers also placed particular emphasis on training in early childhood psychology and learning habits (52.5%), demonstrating their recognition of the importance of understanding children's psychological and learning characteristics for designing appropriate instructional plans. By comprehending students' cognitive development and individual differences, teachers can better adapt their teaching methods to increase student engagement and learning outcomes. Finally, 42.5% of teachers expressed a desire for regular assessment and feedback, indicating that teachers seek timely evaluation and constructive suggestions during the teaching process to help identify areas for improvement and continuously enhance their teaching capabilities. Therefore, future bilingual teacher training programs should adopt a more multifaceted model that integrates theory and practice, incorporates modern educational technology, strengthens teachers' understanding of student psychology and behaviour, and fosters professional growth through ongoing assessment and feedback.

Table 3 presents the survey results on the needs of bilingual kindergarten teachers regarding educational policy and system improvement. The data are presented as ratings of different areas on a scale from 1 (not at all necessary) to 5 (extremely necessary). As can be seen from the table, the most pressing policy improvement need identified by pre-service bilingual teachers was to increase opportunities for hands-on teaching and mentoring during internships ($Mean = 3.95$, $SD = 0.68$), which had the highest mean and slight standard deviation, indicating that respondents generally identified hands-on support in internships as the most critical area for improvement in current policy. In addition, curriculum content that is more relevant to the practical needs of bilingual teaching ($Mean = 3.93$, $SD = 0.83$) and enhanced practical application of bilingual teaching strategies ($Mean = 3.88$, $SD = 0.76$) were also identified as essential directions for improvement, reflecting pre-service teachers' strong need for practical content and practical teaching strategies.

Medium-priority policy improvement needs included providing richer bilingual teaching resources and materials ($Mean = 3.75$, $SD = 0.63$) and increasing internship opportunities related to bilingual teaching ($Mean = 3.75$, $SD = 0.78$). The proximity of these needs suggests that pre-service teachers perceive resource support and the expansion of internship opportunities as essential ways to enhance their bilingual teaching skills. Additionally, a deeper understanding of and responsiveness to the needs of bilingual teachers

in the education system ($Mean = 3.73$, $SD = 0.72$) and greater inclusion of cultural and linguistic diversity in materials ($Mean = 3.68$, $SD = 0.80$) were also cited as areas of need for improvement, reflecting pre-service teachers' expectations for support from the education system and the inclusion of cultural diversity.

Table 3

Survey results on needs for improvement of educational policies

Improvement of Educational Policies	Mean	SD	Ranking
More opportunities for practical teaching and guidance during internships	3.95	0.68	1
Curriculum content is more aligned with the practical needs of bilingual teaching	3.93	0.83	2
Strengthening the practical application of bilingual teaching strategies	3.88	0.76	3
Providing richer bilingual teaching resources and materials	3.75	0.63	4
More internship opportunities related to bilingual teaching	3.75	0.78	5
The educational system needs to have a deeper understanding and response to the needs of bilingual teachers	3.73	0.72	6
Materials that include more cultural and linguistic diversity	3.68	0.80	7
More training on innovative teaching methods	3.60	0.81	8
Educational policy is more closely aligned with the actual needs of bilingual teachers	3.58	0.75	9
Strengthening the application and training of teaching technology	3.50	0.82	10
Other	3.15	0.80	11

Relatively low-priority policy improvement needs include more training on innovative teaching methods ($Mean = 3.60$, $SD = 0.81$), education policies that are more closely aligned with the actual needs of bilingual teachers ($Mean = 3.58$, $SD = 0.75$), and enhanced application and training in instructional technology ($Mean = 3.50$, $SD = 0.82$). These needs have low means but are still not negligible, especially the improvement in the application and training of teaching techniques, which has a significant standard deviation ($SD = 0.82$), indicating some divergence in respondents' views on this issue.

In the survey, the 'Other' responses included two suggestions for improvement. First, some participants noted the need to strengthen collaboration between bilingual educators and language experts to integrate linguistic expertise into classroom instruction. Second, other participants proposed that increased support should be provided for the career development of bilingual teachers, offering more professional development opportunities and career advancement pathways to enhance the overall quality of bilingual education.

For this section, pre-service bilingual teachers identified increased opportunities for practical teaching and mentoring during internships as the most pressing policy improvement need, followed by making course content more relevant to practical needs and enhancing the practical application of bilingual teaching strategies. Medium-priority needs centred on resource support and internship expansion, while relatively low-priority needs related to innovative teaching methods and the application of instructional technology. These findings provide an essential basis for optimising educational policies to support the capacity development of pre-service bilingual teachers.

In conclusion, the current study reveals key insights into the needs and challenges faced by pre-service bilingual teachers in GBA kindergartens. A significant majority (95%) of participants strongly supported bilingual education, highlighting its importance. However, the primary challenge identified was insufficient English proficiency, followed by a lack of effective bilingual teaching methods. These issues emphasise the need to enhance both language skills and teaching strategies. The study suggests several solutions, including increased practical teaching opportunities, better alignment of the curriculum with bilingual education needs, and more substantial support for teaching resources and professional development. Additionally, the study calls for educational policy improvements, such as more hands-on mentoring during internships and a richer array of bilingual teaching resources. These findings offer valuable guidance for policymakers and academic institutions aiming to improve bilingual teacher training and develop more competent educators in the GBA region.

4.0 DISCUSSION

The research shows that candidates' limited English proficiency is a prominent problem ($M=3.90$, $SD=0.90$; Rank = 1; see Table 2). This problem undoubtedly reflects some characteristics of contemporary vocational college education, especially in curriculum design, reliance on traditional teaching methods, and insufficient attention to oral communication and interactive classroom skills. The difference in language ability is not only reflected in grammar knowledge but also in self-confident expression and practical language skills required for effective classroom management and teaching, consistent with previous research (Scherzinger & Brahm, 2023). The results, meanwhile, emphasise that language ability and teaching method are equally important factors in determining the teaching effect. Consistent with Cohen et al. (2014), effective bilingual teaching requires not only a solid language foundation but also interactive, game-based teaching methods to engage learners actively.

Furthermore, this study explicitly highlights the necessity of training that is more focused on practical classroom skills (Mean = 3.75, SD = 0.95; Rank = 2; Table 2). It is to genuinely enhance pre-service teachers' classroom performance, an aspect that has received relatively limited attention in previous literature. The rapid increase in demand for bilingual education in kindergartens across the Guangdong-Hong Kong-Macao Greater Bay Area (GBA) has further intensified the pressure on pre-service teachers. Local parents have high expectations for English instruction in kindergartens; however, the reality of uneven language proficiency among children (Mean = 3.65, SD = 0.77; Rank = 3; Table 2) poses greater challenges for pre-service teachers in terms of teaching methodologies and language application strategies.

The conclusion that enhancing the English proficiency of kindergarten bilingual teachers is of critical importance is substantiated by multiple lines of existing research. First, Santos et al. (2022) assert that a teacher's English language competence directly influences instructional efficacy in bilingual educational settings. Particularly in contexts such as the Philippines, where bilingual education is practised, English serves not only as the target language for learning but also as the primary medium of classroom instruction. Teachers' effective use of English in the classroom can establish an optimal language-learning environment, thereby facilitating students' English language development. Insufficient teacher proficiency may lead to inadequate linguistic input for students, potentially hindering their language acquisition. Consequently, elevating teachers' English proficiency not only bolsters their instructional confidence but also enhances their capacity to support students' mastery of English, ultimately improving teaching quality (Santos et al., 2022).

Second, research by Rao and Yu (2021) demonstrates that bilingual teachers' English proficiency is pivotal for students' language learning. In the context of foreign language education in China, collaborative teaching involving educators from different linguistic backgrounds (e.g., a native English-speaking teacher partnering with a local teacher) has been shown to improve students' English proficiency significantly. This collaborative model provides students with richer linguistic input and cultural perspectives, advancing their English language skills and deepening their understanding of English-speaking cultures. Thus, the English ability of bilingual teachers plays a crucial role in classroom interaction and language pedagogy, directly impacting student learning outcomes.

Finally, Fauziah et al. (2021) also note in their study that, despite the numerous benefits of bilingual education, teachers encounter various challenges in implementation, particularly regarding the use of English as the medium of instruction. Both teachers and students face difficulties in comprehension and expression, especially when dealing with subject-specific content. The research finds that teachers often experience stress when preparing lessons and explaining complex concepts in English, particularly when their own language proficiency is limited. To address these challenges, teachers must continuously improve their language skills and master more effective strategies to genuinely utilise English proficiently in teaching, thereby helping students overcome language barriers and enhance their learning outcomes (Ahmad Radzuan & Mohd Arif, 2025). In summary, improving the English proficiency of kindergarten bilingual teachers enables them to use the language more confidently in teaching and creates a more conducive learning environment for students, thereby elevating their language abilities. Teachers' English competence is vital to the success of bilingual education; as they continually advance their language skills, they become better equipped to navigate pedagogical challenges and improve students' English learning outcomes.

Regarding solutions, the survey results identified three major areas for improvement, namely the education system, future training, and educational policies (Table 3). The results suggest that pre-service bilingual teachers believe there is a critical need to enhance training in practical teaching skills within the current education system (90% of respondents, see Figure 1). The majority of the teachers believe there should be more opportunities for internships and practical experience. The paramount importance of training in practical teaching skills for pre-service kindergarten teachers is supported by both Shahini's (2025) findings and the present study. According to this study, such practical training is critically significant. Primarily, practical teaching serves as the core component that bridges theoretical knowledge with real-world application, enabling pre-service teachers to translate their theoretical knowledge into tangible pedagogical competencies. By engaging in authentic teaching environments, pre-service teachers can cultivate essential instructional capabilities, including the selection, preparation, and utilisation of teaching materials and resources.

Furthermore, the study finds that mentor teachers play a crucial role in students' professional development. However, short-term practicum durations often lead to insufficiently strong connections between mentors and novice teachers, thereby limiting the extent of guidance students can receive from their mentors. Consequently, extending the practicum length is a key strategy for enhancing pre-service teachers' practical abilities, as it allows them more time to collaborate with mentors and refine their teaching skills through sustained practice. The research also indicates that the practicum not only helps students integrate theoretical knowledge with classroom realities but also promotes the development of comprehensive competencies in areas such as classroom management, instructional communication, and emotional handling. By extending the practicum period, students can gain a deeper understanding of the educational process, thereby improving their teaching skills and confidence. These practical experiences are vital for their future careers, as they help students build a professional identity and prepare for entry into the workforce. Therefore, practical teaching skills training for pre-service teachers not only provides them with hands-on teaching experience but also, through extended practicum cycles and enhanced mentor support, elevates their professional competence and the overall quality of education.

Additionally, more than half of the respondents indicated a need for improvements in training on teaching strategies and methods (62.5%, 25), enhancement of English language skills (62.5%, 25), and increased use of and investment in educational technology (55%, 22). First, training in pedagogical strategies and methodologies is fundamental for pre-service teachers. As Octoberlina (2023) emphasises, educators must acquire a repertoire of effective instructional approaches to address diverse learner needs and pedagogical challenges, thereby ensuring the attainment of educational objectives. It is particularly critical in English language teaching, where instructors must judiciously select and adapt methodological frameworks to overcome specific linguistic and cognitive barriers learners encounter during language acquisition. These pedagogical strategies should extend beyond conventional didactic

techniques to incorporate contemporary digital tools, including online learning platforms, virtual reality applications, and interactive gamification, to enrich student engagement and facilitate immersive learning experiences.

Consequently, systematic training in these multifaceted methodologies is an indispensable component of pre-service teacher education, equipping future educators with the competencies needed to navigate classroom complexities and enhance instructional effectiveness. Additionally, according to Mohamad et al. (2024), enhancing kindergarten teachers' English language proficiency is of paramount importance. The study reveals that a significant number of kindergarten teachers exhibit substantial deficiencies in their English proficiency, particularly in productive language skills such as speaking and writing. The finding not only undermines teachers' confidence in the classroom but also constrains the diversity of teacher-student interactions and the range of language input provided to students.

Concurrently, many teachers lack sufficient training in English language pedagogy, resulting in a dearth of effective instructional strategies and methodologies for teaching English. To address these issues, it is critical to enhance educators' linguistic competence and teaching skills. Through regular, structured professional development and increased practical teaching opportunities, teachers can be better equipped to navigate pedagogical challenges. Consequently, improving teachers' linguistic abilities and pedagogical expertise is essential to ensuring high-quality English language instruction and effectively fostering students' language development (Ahmad Radzuan & Mohd Arif, 2025; Zharmukhanbetov & Singh, 2023).

The results show that it is urgent to strengthen practical preparation, including clear classroom-teaching skills training and increased internship opportunities. Practical experience is the basis of effective bilingual teaching. Therefore, the practice content must be given priority in future courses, and the experienced bilingual educators should provide structured guidance and systematically master relevant theories. The candidate advocates targeted training in children's psychology and learning behaviour, while increasing the application of modern educational tools and technologies. In terms of policy and project design, the most urgent needs of quasi-bilingual teachers include: (a) providing more guidance during internship, (b) a close connection between the course content and the daily needs of bilingual classrooms, and (c) greater emphasis on the practical application of bilingual teaching strategies. Together, these suggestions highlight a clear preference for practice-oriented courses and teaching methods.

5.0 CONCLUSION

This study addressed two main research questions regarding the challenges and solutions to enhancing the English-teaching competency of pre-service bilingual teachers in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA). First, it identified the key challenges faced by these teachers, including insufficient English proficiency, a lack of effective bilingual teaching strategies, and diverse student language proficiency levels. These challenges highlight the need for targeted improvements in pre-service teacher training and support systems. Second, the study proposed several solutions to address these challenges, such as enhancing practical teaching skills training, increasing internship opportunities, and providing more comprehensive pedagogical and technological training. These findings are critical for informing future educational policies and training programs aimed at improving the quality of bilingual education in the GBA. By focusing on practical teaching experiences and ensuring that teachers are well-prepared to manage diverse learning environments, the study emphasises the importance of comprehensive teacher development programs to enhance educators' professional skills and the overall quality of bilingual education in the region.

However, this study has certain limitations, primarily a relatively small sample size and the restriction of participants to students from the early childhood education program at a single vocational college in Guangdong Province. These factors may affect the generalizability of the research findings to some extent. Therefore, future studies could expand the sample size and include a broader range of institutions across different regions to further enrich the conclusions of this research further. While this study addresses the challenges and solutions related to enhancing bilingual teachers' English teaching competence in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA), the integration of Artificial Intelligence (AI) technology remains a critical issue for the future of education. Existing research indicates that AI in language teaching has significant potential, offering personalised learning experiences, immediate feedback, and flexible learning opportunities, all of which are crucial for improving teachers' pedagogical competence. However, the current study does not explore in depth the application of AI in education, especially regarding how AI tools might support skill development and pedagogical innovation in bilingual teacher training. Consequently, future research should investigate how to integrate AI technologies into pre-service teacher education effectively. The recommendation includes examining the use of AI for personalised instruction, automated assessment, and the optimisation of learning outcomes. Such exploration would offer new perspectives and solutions to enhance teachers' instructional capabilities and language proficiency.

ACKNOWLEDGEMENTS

This study was not supported by any grants from funding bodies in the public, private, or not-for-profit sectors.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

AUTHOR CONTRIBUTIONS

Li Lu Na (Methodology; Investigation; Visualization; Data curation; Formal analysis; Writing - original draft)

Low Hui Min (Conceptualization; Supervision; Writing - review & editing)

REFERENCES

- Acharya, S., Sidana, A. K., Nagar, P., & Acharya, M. (2024). Bilingualism and education: Nurturing linguistic competence for academic excellence. *Authorea Preprints*. <https://doi.org/10.31124/advance.171682167.78991811/v1>
- Ahmad Radzuan, F. A., & Mohd Arif, M. (2025). Integrating artificial intelligence into language teaching approaches: A systematic review of flipped classrooms. *International Journal of Language Education and Applied Linguistics*, 15(2), 44–58. <https://journal.ump.edu.my/ijleal/article/view/11943>
- Aoife, A., & Beatriz, L. M. (2021). Developing pre-service teachers' digital communication and competencies through service learning for bilingual literacy. *Training, Language and Culture*, 5(1), 57–67. <https://doi.org/10.22363/2521-442X-2021-5-1-57-67>
- Castro, D. C., Franco-jenkins, X., & Chaparro-moreno, L. J. (2025). The effects of dual language education on young bilingual children's learning: A systematic review of research. *Education Sciences*, 15(3)(312), 1–21. <https://doi.org/10.3390/educsci15030312>
- Cortina-Pérez, B., & Pino Rodríguez, A. M. (2022). Analysing CLIL teacher competences in pre-service preschool education: A case study at the University of Granada. *European Journal of Teacher Education*, 45(5), 670–688. <https://doi.org/10.1080/02619768.2021.1890021>
- Cummins, J. (2021). Rethinking the education of multilingual learners: A critical analysis of theoretical concepts (Vol. 19). *Multilingual Matters*.
- Dikilitaş, K., & Mumford, S. E. (2020). Preschool English teachers gaining bilingual competencies in a monolingual context. *System*, 91, 102264. <https://doi.org/10.1016/j.system.2020.102264>
- Du, M., Xu, Q., & Hou, J. (2024). Application strategies of the CLIL teaching model in bilingual instruction for preschool education majors at Vocational Colleges. *Hebei Education*, 62(12), 48–49.
- Dzormeku, C. S., Veermans, K., & McMullen, J. (2024). Linguistic challenges of pre-service teachers in English medium instruction and its relationship to their teaching self-efficacy beliefs. *Teaching and Teacher Education*, 146, Article 104632. <https://doi.org/10.1016/j.tate.2024.104632>
- Fauziah, N., Mirizon, S., & Silvhiany, S. (2021). Bilingual education program: Teachers' and students' perspectives and challenges. *Jurnal Pendidikan Progresif*, 11(2), 219–234. <https://doi.org/10.23960/jpp.v11.i2.202107>
- Gitschthaler, M., Kast, J., Corazza, R., & Schwab, S. (2024). Inclusion of multilingual students-teachers' perceptions on language support models. *International Journal of Inclusive Education*, 28(9), 1664–1683. <https://doi.org/10.1080/13603116.2021.2011439>
- Hansell, K., & Björklund, S. (2022). Developing bilingual pedagogy in early childhood education and care: Analysis of teacher interaction. *Hansell & Björklund. Journal of Early Childhood Education Research*, 11(1), 179–203. <https://journal.fi/jecer/article/view/114013/67209>
- Li, Q., Kong, K., Li, Q., & Wang, Q. (2025). Parental beliefs and the influence of formal and informal literacy environments on preschoolers' attitudes toward English learning. *PLoS One*, 20(8), e0329208. <https://doi.org/10.1371/journal.pone.0329208>
- Mohamad, M. I., Mohamed, M. S., & Abu-Bakar, K. (2024). Preschool teachers' issues and beliefs in English language teaching: A systematic review (2012-2022). *European Journal of Educational Research*, volume-13-(volume-13-issue-1-january-2024), 279–296. <https://doi.org/10.12973/eu-jer.13.1.281>
- Nurhidayat, E., Mujiyanto, J., Yuliasri, I., & Hartono, R. (2024). Technology integration and teachers' competencies in the development of 21st-century learning in the EFL classroom. *Journal of Education and Learning*, 18(2), 342–349. <https://doi.org/10.11591/edulearn.v18i2.21069>
- Octaberlina, L. R. (2023). Exploring the use of digital technology in English language teaching: strategies and methods for effective implementation. *Academic Journal of English Language and Education*, 7(1), 175. <https://doi.org/10.29240/ef.v7i1.6977>
- Qiu, J. P. (2023). Innovative strategies for cultivating the English ability of preschool teachers. *Advances in Educational Technology and Psychology*, 7(6). <https://doi.org/10.23977/aetp.2023.070610>
- Qu, S. B. (2020). Language problems in the construction of the Guangdong-Hong Kong-Macao Greater Bay Area. *Chinese Journal of Language Policy and Planning*, 1, 22–33. <https://doi.org/10.19689/j.cnki.cn10-1361/h.20200102>
- Rao, Z., & Yu, H. (2021). Enhancing students' English proficiency by co-teaching between native and non-native teachers in an EFL context. *Language Teaching Research*, 25(5), 778–797. <https://doi.org/10.1177/1362168819873937>
- Santos, A., Fernandez, V., & Ilustre, R. (2022). English language proficiency in the Philippines: An overview. *International Journal of English Language Studies*, 4(3), 46–51. <https://doi.org/10.32996/ijels.2022.4.3.7>
- Scherzinger, L., & Brahm, T. (2023). A systematic review of bilingual education teachers' competences. *Educational Research Review*, 39, Article 100531. <https://doi.org/10.1016/j.edurev.2023.100531>
- Shahini, G. (2025). The role of pedagogical practice duration in developing pre-service teacher competencies. *Journal of Curriculum Studies Research*, 7(2), 73–90. <https://doi.org/10.46303/jcsr.2025.12>
- Wen, Z., Han, L., Hu, G., & Teng, M. F. (2022). Rethinking language policy and planning in the Greater Bay Area of China: Insights from translanguaging theory. *Asian-Pacific Journal of Second and Foreign Language Education*, 7(1), 42. <https://doi.org/10.1186/s40862-022-00167-0>

- Yang, S., & Wang, G. C. (2023). A Visualised analysis of preschool bilingual education research in China over the past decade. *Survey of Education*, 12(24), 110–117. <https://doi.org/10.16070/j.cnki.cn45-1388/g4s.2023.24.032>
- Zayas-Martínez, F., Estrada-Chichón, J. L., & Segura-Caballero, N. (2024). Pre-service CLIL teachers' conceptions on bilingual education: Impact of initial training on the development of their teaching skills. *Education Sciences*, 14(12), 1331. <https://doi.org/10.3390/educsci14121331>
- Zeng, M., Abdullah, Z., & Cheah, K. S. (2025). Pre-service teachers' digital competence: A systematic review of factors, frameworks, and global patterns. *International Journal of Learning, Teaching and Educational Research*, 24(8), 218–247. <https://doi.org/10.26803/ijlter.24.8.10>
- Zharmukhanbetov, S., & Singh, C. P. (2023). Enhancing flipped classroom engagement and personalised learning through AI-powered adaptive content delivery. *2023 3rd International Conference on Technological Advancements in Computational Sciences (ICTACS)*, 1411–1416. <https://doi.org/10.1109/ICTACS59847.2023.10389841>