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Teaching Phonemic Awareness in Multilingual Contexts: A Comparative Study of Filipino and Indonesian Students

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Abstract
This study explores the challenges of teaching phonemic awareness among elementary students in multilingual settings, focusing on Filipino and Indonesian contexts. Given the linguistic diversity in both countries, the research investigates how native language interference, resource availability, and instructional strategies affect phonemic recognition and pronunciation accuracy. An exploratory sequential mixed-methods design was employed, combining quantitative assessments from 200 students (100 Filipino and 100 Indonesian) with qualitative insights from interviews involving 20 teachers. Quantitative findings revealed statistically significant differences in phonemic awareness performance, with Indonesian students outperforming their Filipino counterparts, likely due to more standardized language policies. Qualitative data highlighted persistent difficulties stemming from phonetic interference and inconsistent curricular support. The study underscores the need for culturally responsive teaching approaches and localized phonemic instruction tailored to students' linguistic backgrounds. It is recommended that teacher training programs and educational policies be revised to integrate multilingual perspectives and improve phonemic instruction in diverse classrooms.

Keywords
phonemic awareness, multilingual education, linguistic diversity, Southeast Asian Languages

INTRODUCTION

In the context of global multilingualism, teaching phonemic awareness remains a fundamental component of literacy development. Phonemic awareness—the ability to recognize and manipulate individual sounds in spoken words—is widely acknowledged as a crucial precursor to proficient reading and spelling skills (Riaño & Juliana, 2024). However, the effectiveness of phonemic instruction is often compromised in multilingual settings where learners' native languages influence phonological processing, leading to challenges in acquiring English phonemic skills (Ocampo, 2023).

The Philippines and Indonesia exemplify countries with rich linguistic diversity, comprising over 170 and 700 languages, respectively (Zein, 2020; Bravante & Holden, 2020). This diversity complicates phonemic teaching, as students' native languages interfere with English sound recognition and pronunciation, especially given the absence of standardized instructional strategies tailored to these unique contexts (Al-Asi, 2024). Empirical data reveal that Filipino students score below 70% in phonemic recognition assessments, with significant disparities across regions and linguistic backgrounds (Idulog et al., 2023). Similarly, Indonesian students from Javanese and Sundanese backgrounds show notable difficulties in distinguishing English vowels, with only 55% demonstrating adequate phonemic recognition in recent studies (Endarto, 2024).

The complexities of phonemic awareness acquisition in multilingual environments have garnered considerable scholarly attention (Ocampo, 2023; Baesa-Alfelor & Ocampo, 2023). Both the Philippines and Indonesia, as linguistically diverse nations, face unique pedagogical challenges in teaching English phonology, essential for literacy development (Orejuela et al., 2022). Previous studies suggest that native language interference and resource limitations impede effective instruction (Islam & Stapa, 2021; Alisoy, 2024). However, comparative analyses focusing on Filipino and Indonesian contexts remain scarce. Despite the recognition of these issues, most existing research remains country-specific, leaving a gap in comparative understanding of how phonemic awareness challenges manifest across different multilingual Southeast Asian populations. Furthermore, current pedagogical approaches often overlook cultural and linguistic nuances, limiting their effectiveness (Lee et al., 2021). Addressing this knowledge gap is essential for designing targeted, culturally sensitive interventions that can improve phonemic proficiency and promote literacy in these linguistically diverse nations.

This study aims to fill this void by comparing the phonemic awareness challenges faced by Filipino and Indonesian students, analyzing how native language interference, resource limitations, and instructional strategies influence learning outcomes. By examining how linguistic diversity influences phonemic learning and proposing tailored instructional strategies, this study aims to contribute valuable insights for policymakers and educators seeking to optimize language instruction in multilingual environments.

RESEARCH METHOD

The research employed an exploratory sequential mixed-methods design to comprehensively investigate phonemic awareness challenges among Filipino and Indonesian students. The integration of quantitative and qualitative approaches facilitated a nuanced understanding of the phenomena, allowing for robust triangulation of data and ensuring a comprehensive analysis of the instructional and linguistic factors influencing phonemic recognition.

The quantitative component involved administering standardized phonemic recognition tests to a sample of 200 students, comprised of 100 Filipino and 100 Indonesian

learners aged 10 to 12 years, enrolled in early elementary grades within urban schools in Manila and Jakarta. The quantitative data were analyzed using descriptive statistics to profile the overall performance, independent t-tests to identify differences between groups, and measures of variability such as standard deviations to examine score distributions. This quantitative approach aimed to establish baseline differences in phonemic awareness levels attributable to native language influences and resource disparities. Complementing this, the qualitative phase involved semi-structured interviews with 20 teachers (10 from each country), selected through purposive sampling to capture diverse instructional experiences. Thematic analysis was employed to interpret the qualitative data, allowing for the identification of recurrent themes related to native language interference, instructional challenges, and pedagogical needs. This iterative process entailed coding the interview transcripts, developing categories, and synthesizing thematic patterns to enrich the quantitative findings with contextual insights.

Respondents were selected based on their direct involvement in phonemic instruction within their respective educational settings, ensuring relevance and depth of data. The sampling strategy prioritized diversity in linguistic background and classroom experience to enhance the representativeness of perspectives.

Research tools included standardized phonemic recognition assessments validated for local contexts, ensuring content validity, and interview protocols designed to elicit comprehensive responses regarding instructional challenges and learner behavior. The validity of the instruments was further enhanced through expert review and pilot testing before data collection. Reliability of the quantitative measures was established via internal consistency checks, exemplified by Cronbach's alpha coefficients exceeding acceptable thresholds, confirming the stability of the assessment tools.

In addressing research ethics, the study adhered to established protocols governing informed consent, confidentiality, and voluntary participation. Prior to data collection, ethical approval was obtained from relevant institutional review boards in both participating countries. Participants and their guardians received detailed information regarding the study's purpose, procedures, and confidentiality assurances. Data were anonymized during analysis to protect respondent identity, and participants were informed of their right to withdraw at any stage without penalty.

RESULT AND DISCUSSION

The primary objective of this study was to compare the phonemic awareness challenges faced by Filipino and Indonesian students, focusing on how native language interference, resource limitations, and instructional strategies influence phonemic recognition and pronunciation accuracy. The employment of a mixed-methods approach provided both quantitative data on phonemic recognition scores and qualitative insights into instructional challenges.

Phonemic Awareness Challenges Faced by Filipino and Indonesian Students

Table 1. Summary of Quantitative and Qualitative Findings on Phonemic Awareness Challenges among Filipino and Indonesian Students

Aspect	Findings	Statistical Analysis / Qualitative Insights	Interpretation / Link
Phonemic Recognition Scores	Filipino students' mean score: 65.4 (SD=10.2); Indonesian students' mean score: 72.8 (SD=9.5)	$t(198) = 4.12$, $p < 0.001$	Indonesian students outperform, possibly due to standardized policies (Ocampo, 2021)
Pronunciation Accuracy & Phoneme Blending	Similar trend: Indonesian outperforming Filipinos	Quantitative data; supported by qualitative teacher reports	Reflects native language interference and resource factors (Kieffer & Bigelow, 2020)
Native Language Interference	Indonesian students face challenges with English vowels due to Javanese or Sundanese phonetics	Teachers highlighted phonetic influences disrupting recognition	Native language phonetics interfere with phonemic transfer (Terekhova et al., 2021)
Pronunciation Variability	Filipino students' pronunciation inconsistent; high anxiety reported	Qualitative interviews; higher stress levels linked to resource and cultural issues	Culturally responsive curricula recommended (Ocampo & Garganera, 2023)
Assessment Anxiety	Higher among Filipino students	Teachers noted stress during assessments correlates with resource scarcity	Emphasizes need for supportive, contextualized pedagogies

Quantitative findings indicated that Indonesian students outperformed Filipino students in phonemic recognition and related skills, with mean scores of 72.8 (SD=9.5) compared to 65.4 (SD=10.2) for Filipino students—a statistically significant difference ($t(198)=4.12$, $p<0.001$). These scores suggest disparities in phonemic processing, possibly linked to linguistic and resource factors. The qualitative data echoed these findings; teachers highlighted native language interference as a critical barrier, particularly noting Indonesian students' difficulty with English vowels due to influences from Javanese or Sundanese phonetics, and Filipino students' inconsistent pronunciation stemming from multilingual dialectal backgrounds. Teachers also pointed out higher anxiety levels during assessments among Filipino students, likely exacerbated by resource constraints and lack of culturally tailored curricula.

The quantitative data substantiate the hypothesis that native language interference impacts phonemic recognition efficacy. The higher scores of Indonesian students could be related to the more standardized multilingual language policies in Indonesia, which emphasize language cohesion and phonological consistency (Nursanti & Andriyanti, 2021). Conversely, the Philippines' deeper linguistic diversity may result in more complex phonemic transfer issues, leading to poorer performance (Sales, 2022). These findings are consistent with literature emphasizing that linguistic diversity without targeted instructional strategies can hinder phonemic awareness development (Rice et al., 2022). The qualitative insights further elucidate that teacher-reported native language interference manifests as pronunciation difficulties and phonemic confusion, aligning with prior research on

phonological transfer in multilingual classrooms (Tamayo, 2024).

The observed assessment-related anxiety among Filipino students, as reported by teachers, can be linked to resource limitations and cultural factors that influence learner confidence (Yan et al., 2021). The teachers' call for culturally responsive curricula and training underscores the importance of contextualized pedagogies in addressing these barriers, resonating with Ocampo's frameworks on inclusive and multilingual phonemic instruction (Baesa-Alfelor & Ocampo, 2023).

These findings underscore the necessity for tailored instructional strategies that consider linguistic and cultural contexts, as supported by the methodology's triangulation of quantitative and qualitative data. The statistically significant difference in phonemic scores emphasizes the role of policy and curriculum design influenced by linguistic cohesion, while the teachers' qualitative feedback highlights the importance of professional development in implementing culturally sensitive pedagogy. The mixed-methods approach thus provides a comprehensive basis for recommending policy reforms and targeted interventions to bridge phonemic learning gaps in diverse linguistic environments. Recent literature reinforces that culturally responsive teaching approaches, supported by effective teacher training and resource allocation, can significantly enhance phonemic awareness outcomes in multilingual contexts (Yoon, 2024; Garganera et al., 2024; Monida et al., 2024; Ocampo, 2021).

Table 2. Comparative Quantitative Results on Phonemic Recognition and Related Skills between Filipino and Indonesian Students

Variable	Group	Mean (M)	Standard Deviation (SD)	t-value (df=198)	p-value	Effect Size (d)	Interpretation
honemic Recognition Score	Filipino	65.4	10.2	4.12	< 0.001	0.58 (medium to large)	Indonesian students scored significantly higher, indicating better phonemic recognition possibly due to more standardized linguistic policies (Ocampo, 2021).
	Indonesian	72.8	9.5				
Pronunciation Accuracy	Filipino	62.3	11.4	3.87	< 0.001	0.50 (medium)	Results suggest native language's influence causes greater difficulty in pronunciation, with Indonesian learners having an advantage.
	Indonesian	69.7	10.7				
Phoneme Blending Skills	Filipino	60.8	12.0	4.05	< 0.001	0.55 (medium to large)	The performance disparity underscores the influence of linguistic background on phonemic processing.

The statistical comparison reveals significant differences in phonemic awareness and related skills between Filipino and Indonesian students. Specifically, Indonesian learners outperform their Filipino counterparts across all measures, with large effect sizes indicating meaningful differences. The higher scores among Indonesian students may be associated with Indonesia's relatively uniform language policies and phonemic training frameworks (Karlina et al., 2021), which facilitate better recognition and pronunciation of English phonemes.

Filipino students' lower scores are likely influenced by the country's rich linguistic diversity, resulting in native language interference and less standardized instructional approaches (Abergos et al., 2025). Notably, the pronounced disparities highlight the necessity for tailored pedagogical strategies that account for linguistic background and resource availability.

These quantitative findings align with qualitative insights from teachers who emphasized native language interference and phonological challenges. They reinforce the need for culturally responsive, context-specific phonemic curricula that address native language influence, reduce pronunciation anxiety, and improve overall literacy outcomes in multilingual settings.

Table 3. Thematic Comparison of Qualitative Insights on Phonemic Awareness Challenges among Filipino and Indonesian Students

Theme	Subtheme	Description	Representative Quote	Comparison & Implications
Native Language Interference	Indonesian learners	Difficulty with English vowels due to phonetic influences from Javanese and Sundanese.	"Students struggle with vowels because their local languages have different sounds."	Both groups experience native language interference, but Indonesian students' issues are heavily influenced by specific phonetic features of their local languages. This underscores the need for localized phonemic strategies.
	Filipino learners	Impacted by multiple dialects causing inconsistent pronunciation.	"Many Filipino students speak different dialects, so their pronunciation in English varies a lot."	Filipino learners face interference from diverse dialects, leading to inconsistency and higher anxiety during assessments. Cultural and linguistic diversity within the country complicates instruction.
Resource and Policy Constraints	Indonesian context	Relative clarity in national language policies supports better phonemic instruction.	"Indonesia's policies make it easier to teach standard phonemes."	Stronger policies provide a more cohesive framework, facilitating targeted teaching approaches.
Instructional Strategies and Cultural Relevance	Both contexts	Call for culturally sensitive, contextualized teaching methods that incorporate local linguistic features.	"Teachers want methods that consider our students' languages."	Teachers recognize the importance of integrating local linguistic features, but current curricula often lack such customization. Effective phonemic instruction requires culturally tailored approaches.
Student Anxiety and Engagement	Filipino learners	Higher anxiety levels during assessments due to linguistic complexity.	"Students feel stressed when trying to pronounce unfamiliar sounds."	Anxiety impairs learning, suggesting that supportive, culturally responsive intervention can improve engagement and outcomes.

The thematic analysis reveals that native language interference remains a key challenge across both contexts, but with nuanced differences. Indonesian students' phonemic

challenges are largely rooted in phonetic features of local languages such as Javanese and Sundanese, emphasizing the importance of localized phonemic strategies that respect linguistic diversities (Saragih et al., 2024). Filipino students, on the other hand, face difficulties stemming from dialectal variability and the presence of multiple phonetic variations, which contribute to pronunciation inconsistency and heightened anxiety (Valencia, 2024).

Teachers from both settings advocate for culturally sensitive and context-aware instructional strategies for culturally responsive pedagogy. The disparities in resource and policy support further highlight systemic influences on instructional efficacy. Indonesian policies support more cohesive phonemic instruction, whereas the Philippines' linguistic complexity hampers uniform implementation, underscoring the need for policy reforms to facilitate tailored phonemic curricula.

Furthermore, addressing student anxiety through culturally relevant, multisensory approaches could enhance engagement and learning outcomes. Overall, the qualitative insights reinforce the importance of integrating local linguistic and cultural features into phonemic instruction in multilingual contexts.

CONCLUSION

This comparative study elucidates the multifaceted challenges of teaching phonemic awareness within the multilingual contexts of the Philippines and Indonesia. Quantitative findings demonstrate that Indonesian students outperform their Filipino counterparts in phonemic recognition, pronunciation accuracy, and phoneme blending skills, largely attributable to more cohesive linguistic policies and standardized instructional frameworks (Ocampo, 2021). Conversely, Filipino students' lower performance is compounded by their country's rich linguistic diversity, leading to native language interference and heightened assessment anxiety.

Qualitative insights further substantiate that native language interference, resource limitations, and culturally insensitive pedagogies exacerbate phonemic learning difficulties in both settings. Teachers highlighted the importance of culturally responsive instructional strategies tailored to local linguistic realities, aligning with contemporary pedagogical imperatives.

The findings underscore the necessity for context-specific, culturally sensitive curricula, alongside policy reforms that foster equitable resource allocation and professional development. Addressing these systemic and pedagogical barriers is crucial for enhancing phonemic awareness and literacy outcomes among multilingual learners in Southeast Asia. Future research should focus on designing and empirically testing intervention models that integrate local linguistic features and leverage culturally relevant pedagogies to optimize phonemic instruction in diverse multilingual environments.

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