

## AN INVESTIGATION OF CRITICAL THINKING SKILLS OF PRE-SERVICE ENGLISH TEACHERS IN THE CONTEXT OF PHONOLOGICAL ACQUISITION

#<sup>1</sup>Rosmania Rima, \*<sup>2</sup>Asep Muhyidin

#<sup>1</sup>English Lecturer, Faculty of Education, University of Sultan Ageng Tirtayasa,  
Serang, Indonesia

\*<sup>2</sup>Indonesian Lecturer, Faculty of Education, University of Sultan Ageng Tirtayasa,  
Serang, Indonesia

Corresponding Author Email: [rosmania@untirta.ac.id](mailto:rosmania@untirta.ac.id)

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### ABSTRACTS

The objective of this study was to investigate the critical thinking abilities of pre-service English teachers in the context of phonological acquisition. The present study employed a quantitative descriptive approach, which included a sample of 25 pre-service English teachers in the sixth semester at the Teachers Training Faculty in Serang, Banten. The research employed a critical thinking skill assessment instrument with essay question formats, which aligned with Ennis' five indications of critical thinking skills. The findings indicated that the critical thinking abilities of pre-service English teachers were classified as low to moderate across the five parameters. There is a need for enhancement in the realm of lecture activities in order to foster the development of critical thinking abilities among pre-service English teachers.

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### INTRODUCTION

The advent of the 21st century has ushered in significant transformations in the realms of social, political, economic, and educational domains, wherein these developments exhibit interdependencies and reciprocal influences (Moon, 2007). Moreover, in light of the increasing interest in the field of education, individuals have endeavored to acquire the ability to engage in critical thinking as a means of effectively navigating novel social circumstances. Consequently, the practice of criticism has become indispensable for the perpetuation and efficacy of society. Critical thinking is widely seen as a vital accomplishment in the realm of decision-making, with considerable potential to assist pupils in making sound judgments (McCarthy, 2006). Critical thinking encompasses the capacity to draw sound inferences and engage in intricate problem-solving (Heard et al., 2020). Critical thinking is considered to be a cognitive process that operates at a higher level of conceptual thinking (da Silva Almeida & Helena Rodrigues Franco, 2011). The cultivation of critical thinking abilities holds significant importance within the realm of higher education. The attainment of critical thinking skills in higher education is linked to the enhancement of decision-making abilities pertaining to

intricate real-world issues, as well as the development of a more engaged and informed citizenry (Li, 2023).

The significance of this matter necessitates acknowledging the growing body of research that underscores the significance of critical thinking in teacher education. Moreover, it is worth noting that these studies have yielded varying outcomes across different contexts. While certain research focused solely on identifying the critical thinking tendencies of pre-service teachers, others have explored this topic by considering additional characteristics such as their values, educational convictions, and accepted educational philosophies (Gürbüz, 2021a; ULU, 2022; Uluçınar & Aypay, 2018; Yuan et al., 2021). Nevertheless, a thorough review of the existing literature has failed to uncover any research studies that have investigated the relationship between the critical thinking dispositions of pre-service teachers and their conceptions of teaching and learning.

Pre-service English teachers bear the responsibility of preparing themselves to educate their future students. This preparation encompasses acquiring subject knowledge, pedagogical skills, and a deep understanding of educational theories and practices. It involves engaging in self-reflection, seeking mentorship, and engaging in professional development opportunities. Pre-service teachers must embrace this philosophy and actively engage in self-preparation to ensure they are equipped to guide and inspire their students. Critical thinking is an indispensable skill for pre-service teachers. It empowers them to analyze, evaluate, and respond to complex educational situations with clarity and discernment. Critical thinking enables pre-service teachers to question assumptions, challenge traditional practices, and explore innovative teaching strategies. It helps them develop a deep understanding of their students' needs, identify gaps in their own knowledge, and adapt their teaching approaches accordingly. By fostering critical thinking skills, pre-service teachers can cultivate an environment conducive to intellectual growth and meaningful learning experiences. Phonology acquisition refers to the understanding and mastery of the sounds and sound patterns of language. It is a crucial aspect of language development and literacy instruction. For pre-service teachers, phonology acquisition is essential as it enables them to effectively teach reading, writing, and language skills. By acquiring knowledge of phonological concepts and strategies, pre-service teachers can confidently guide students through the intricacies of decoding and comprehension, fostering a strong basis for future language development (Chan, 2022; Veríssimo et al., 2021).

Research conducted in Indonesia has revealed that the critical thinking abilities of pre-service English teachers are now assessed as being at a low to moderate level. The findings of the study indicate that the utilization of critical thinking skills among pre-service teachers is observed to be at a relatively moderate level (Gürbüz, 2021b; Fitriani & Agustina, 2023; Moeljono & Lintangari, 2021; Mogeia, 2022). The deficiency in critical thinking abilities among pre-service English teachers might be attributed to various circumstances. Developing critical thinking abilities in pre-service English teachers might be challenging due to the continued reliance on traditional teaching methods. The use of critical thinking in the classroom is often perceived as challenging due to several factors, including limited opportunities for practice, insufficient access to relevant material, and time limitations. Therefore, the integration of critical thinking abilities poses a challenge.

Additional research is required to investigate the critical thinking abilities of pre-service English teachers, particularly within the context of Phonological Acquisition. The objective of this study is to investigate the cognitive ability of pre-service English teachers within the framework of phonological acquisition. This study aims to provide a comprehensive assessment of the critical thinking abilities of pre-service English teachers, with the ultimate goal of identifying areas for improvement. Therefore, those enrolled in pre-service English teacher programs will actively participate as responsible members of society in addressing various issues.

## **RESEARCH METHOD**

The study employed a descriptive quantitative methodology. The study comprised a sample of 25 pre-service English teachers in their third year of study at the Teachers Training Faculty located in Serang, Banten. The assessment employed in this study was a critical thinking skills test that incorporated essay-type questions related to phonological acquisition. The assessment employed various indicators to measure critical thinking abilities, including elementary explanation, basic support, inference, advanced clarification, and strategy and tactics (Ennis, 2015). The validity of the five test items falls inside the valid group, while the reliability of the test items is deemed reliable. The data underwent analysis utilizing percentage approaches and thereafter were described. The findings about the significance of critical thinking abilities are analyzed and presented in categorical form (Agip, 2009).

### **Research Design**

The utilization of research design serves the purpose of examining and determining the focus of investigation in this particular study. To ensure the proper progression of research, the implementation of a research design is crucial. The research design employed in this study is a descriptive quantitative, as it involves the presentation of data in both numerical and descriptive formats. Descriptive research refers to a type of study that aims to determine the characteristics or attributes of one or more variables, without engaging in comparisons or establishing connections with other variables. Quantitative approaches prioritize the utilization of objective measures and the application of statistical, mathematical, or numerical analysis to examine data obtained through polls, questionnaires, surveys, or the manipulation of preexisting statistical data through computational techniques. The current study was conducted as a descriptive quantitative study with the objective of examining the critical thinking skills of pre-service English instructors within the domain of Phonological Acquisition.

### **Subject**

This study encompasses a sample of 25 pre-service English language teachers who are currently enrolled in the sixth semester at the Education Faculty of Sultan Ageng Tirtayasa University. The selection of the sixth-year pre-service English teachers was based on their participation in instructional courses related to the field, so ensuring representativeness. The participants were intentionally selected from three different classes (A, B, C) consisting of third-year pre-service instructors. Out of a sample size of 25 individuals, 19 participants identified as female whereas 6 people identified as male. The age range of the individuals in question fell between 19 to 21 years.

Purposive and stratified sampling were employed to ensure specific criteria for participation are met while representing variation among the classes. By using this mixed sampling technique, the researchers aim to create a sample that is both targeted and representative of the population under study. Purposive sampling is employed by intentionally selecting participants who meet specific criteria. In this case, the third-year pre-service English language instructors who are currently enrolled in the Education Faculty of Sultan Ageng Tirtayasa University are selected based on their participation in instructional courses related to the field. This ensures representativeness in terms of their qualification and academic pursuit. Additionally, the study also utilizes stratified sampling by selecting participants from three different classes (A, B, C) consisting of third-year pre-service instructors. The population is divided into distinct subgroups based on the classes, and the sample is drawn proportionately from each stratum. This allows for the representation of variations that may exist among the different classes and considers potential differences that may exist between them.

During the data collection process, it was explicitly stated that participation in the study is voluntary and that respondents' answers will be exclusively utilised for scientific research purposes, with no disclosure to other entities. Furthermore, pertinent details regarding the objective of the research were provided.

### **Instrument**

Within the parameters of the study investigation, quantifiable data was obtained by means of open-ended questions. Quantitative data were acquired in the context of phonological acquisition through the utilisation of a critical thinking test, employing the aforementioned data collecting tools. The assessment utilised a range of indications to evaluate individuals' critical thinking skills, encompassing elementary explanation, basic support, inference, advanced clarification, as well as strategy and tactics (Ennis, 2015). The researcher employed open-ended questions to obtain data from the participants in a single day, within the classroom setting. The Score is ranging from 0-20 points for each indicator. The maximum score 20 is given to meet these criteria: all concepts are correct, clear, and specific; all written answers are correct, clear, and specific, supported by strong and correct reasoning, with clear arguments; the thought process is good, all concepts are interconnected and integrated; Grammar is good and correct and all aspects are apparent, evidence is good and balanced. Initially, the research objective was elucidated, followed by a presentation of the intended practical implications. Furthermore, it has been emphasised that the data collection instrument does not involve grading system, and so, the participants' attentiveness is crucial for the researcher to achieve the objectives of the study.

### **Data Analysis**

The data was subjected to analysis using percentage-based methodologies and thereafter described. Agip (2009) conducted an analysis and presentation of the findings pertaining to the importance of critical thinking skills, which were organised and presented in a categorical manner. The measurement of pre-service English teachers' critical thinking skills is conducted by the utilization of an instrument consisting of five distinct components, including elementary explanation, basic support, inference, advanced clarification, as well as strategy, and tactics. The assessment of Internal Consistency Reliability was performed using the Alpha Cronbach coefficient, yielding a score of 0.864. This value suggests that the reliability of the measurement is deemed adequate, demonstrating a high level of consistency. The results of the validity coefficients indicate that all of the items in the study are valid.

The data analysis employs descriptive statistics, such as the mean, median, mode, standard deviation, minimum, and maximum scores, to summaries the calculations. The table is utilised to present the distribution of scores across different components, thereby assessing the learners' critical thinking proficiency.

## **RESEARCH FINDINGS AND DISCUSSION**

### **Research Findings**

The results of the critical thinking skills test for pre-service English teachers in phonological acquisition context can be seen in table 1. The result of pre-service English teacher critical thinking skill test showed that are low to moderate.

Table 1  
Result of Critical Thinking Test

Indicator of Critical thinking skill	Mean Score	Percentage	Category
Elementary explanation	16.57	82.88%	Moderate
Basic support	12.16	63.07%	Moderate
Inference	8.57	42.88%	Low
Advanced clarification	4.53	22.69%	Low
Strategy and tactics	4.46	22.30%	Low
<b>Overall</b>	48.04	48.04%	Low

Table 2 displays the pre-service English teachers' proficiency levels in the elementary clarifying indicators. The primary purpose of employing a clarification indication is to direct attention towards the question at hand, critically evaluate arguments, and engage in a process of questioning and answering pertaining to the subject matter. The assessment of this indicator entails challenges derived from a scholarly publication on phonological acquisition. The findings indicated that 52.00% of the sample achieved a classification of "very high," while no pre-service English teachers fell into the "very low" category. The cognitive processes of pre-service English teachers when formulating questions are insufficient. The ability to effectively articulate an issue is of utmost significance as it enables pre-service English teachers to navigate the problem-solving process with precision and accuracy. Moreover, this phenomenon has a significant influence on pre-service English teachers, as they have difficulties in providing accurate explanations for the given issues.

Table 2  
Profile of the Elementary Clarification Skill

Category	Percentage
Very high	52%
High	36%
Moderate	12%
Low	0%
Very low	0%

Table 3 displays the proficiency levels of pre-service English teachers in relation to the basic support indication. The fundamental sign of support involves assessing the credibility of the source and carefully examining and interpreting an observational report. The questions presented in this examination have been sourced from the identical study article pertaining to the domain of phonological acquisition. Pre-service English teachers are required to provide an account of the rationale behind the researcher's decision to conduct the study, the methodology employed, and the justifications for its use. Additionally, pre-service English teachers should analyze why the researcher opted to utilize Maksan's (1993) theory of vowel and consonant acquisition in comparison to other existing theories. In this particular indicator, it was observed that no pre-service English teachers achieved a classification in the very high category, while 52.00% of pre-service English teachers attained a classification in the intermediate group.

Table 3  
Profile of Basic Support Skill

Category	Percentage
Very high	0%
High	36%
Moderate	52%
Low	12%
Very low	0%

The skill profile of the pre-service English teachers in relation to the inference indicator is presented in table 4. The process of inference involves the act of inducing and evaluating the outcomes of induction, as well as forming judgments and assessing the significance of such evaluations. The inquiries posed in this examination pertain to elucidating the significance of the table provided in the scholarly publication. It is anticipated that pre-service English teachers will be able to draw conclusions from the table regarding the consonants that have not been acquired by the subject during the "adult grammar" phase. They are also required to arrange the phonological acquisition order and provide an explanation for the observed sequence of acquisition. A significant proportion, specifically 64.00%, of the sample demonstrates an inability to provide a comprehensive explanation or expand upon the answer when referring to the information presented in table 4.

Table 4  
Profile of Inference

Category	Percentage
Very high	0%
High	0%
Moderate	0%
Low	64%
Very low	36%

The competence profile of the pre-service English teachers on the advanced clarification indicator is presented in table 5. Advanced clarification is the process of precisely defining terminology and carefully examining its definitions, as well as recognizing and analyzing the underlying assumptions. The inquiries posed in this examination pertain to the process of phonological acquisition. It is anticipated that pre-service English teachers possess the ability to elucidate, drawing on the provided article, the phonological acquisition order within the Indonesian context. Furthermore, they are required to analyze the acquisition patterns of vowels, diphthongs, and consonants, discerning which of these linguistic elements are more readily acquired by youngsters. None of the pre-service English teachers were able to provide additional satisfactory explanations for these questions, and all of the answers received low ratings.

Table 5  
Profile of Advanced Clarification

Category	Percentage
Very high	0%
High	0%
Moderate	0%
Low	0%
Very low	100%

Table 6 displays the indicator for pre-service English teachers' strategy and tactic skills. The determination of action is contingent upon the indicator of strategy and tactic. The inquiry posed in this examination pertains to the examination of the factors contributing to the absence of fricative and vibratory sounds in the speech production of a four-year-old individual. Additionally, it explores the strategies that parents can employ to mitigate errors in children's phonological development. The pre-service English teachers are unable to effectively finish these questions.

Table 6  
Profile of Tactic Skills

Category	Percentage
Very high	0%
High	0%
Moderate	0%
Low	0%
Very low	100%

## Discussion

The pre-service English teachers' critical thinking skills in the context of phonological acquisition indicates a moderate level of elementary explanation. This suggests that teachers are able to provide basic explanations regarding phonological acquisition, but their understanding lacks depth and complexity. Furthermore, the level of basic support is also moderate, indicating that while teachers can provide basic assistance and guidance to students in this area, their support may be limited in addressing more complex or nuanced aspects of phonological acquisition. In terms of inference, the analysis indicates a low level of advanced clarification. This suggests that pre-service English teachers may struggle to make inferences or draw conclusions beyond what is explicitly stated or taught. Their ability to synthesize information and apply it creatively to solve problems related to phonological acquisition remains limited. Additionally, the strategy and tactics employed by pre-service English teachers in this context are assessed as low. This implies that teachers may lack effective and versatile strategies to facilitate students' appropriate phonological acquisition. They may struggle to adapt their instructional methods or employ different techniques to address individual student needs effectively.

The current state of pre-service English teachers' critical thinking skills remains suboptimal as a result of conventional instructional methods, insufficient opportunities for training, and limited time dedicated to honing critical thinking abilities. This aligns with the perspective that conventional education alone is insufficient for the cultivation of critical thinking abilities (da Silva Almeida & Helena Rodrigues Franco, 2011). The use of critical thinking in the classroom is often challenging due to factors such as limited opportunities for practice, insufficient access to information, and time constraints. Consequently, the integration of critical thinking abilities poses a significant difficulty (Li, 2023). The capacity for critical thinking is not an inherent trait. Hence, it is imperative for pre-service English teachers to undergo training that fosters the development of analytical, systematic, fair, and open-minded approaches to acquiring knowledge. According to scholarly perspectives, the cultivation of critical thinking skills is deemed crucial within the realm of higher education (Golden, 2023; SİNAN ÖZMEN GÜ, 2008; Velayati et al., 2017).

To boost pre-service English teachers' thinking skills, it is necessary to make improvements to the lecturing process. According to a study conducted by (Rohana et al., 2022), it was shown that inquiry-based learning and collaborative activities have the potential to enhance critical thinking abilities. Furthermore, a number of research have demonstrated that the implementation of inquiry-based learning strategies yields a favorable impact on the development of critical thinking disposition among pre-service English teachers (Arsal, 2017a, 2017b). The authors of the study conducted by (Syahrial et al., 2019) express the aspiration that these enhancements will enhance pre-service English teachers' cognitive abilities, enabling them to effectively navigate the challenges of the 21st century and actively engage in problem-solving endeavors.

Overall, the analysis highlights the need for further development of critical thinking skills among pre-service English teachers in relation to phonological acquisition. This may require training and support to enhance their ability to provide advanced explanations, offer more

comprehensive support, improve inference skills, and develop a broader range of effective strategies and tactics.

## CONCLUSION

In light of the research findings, it can be concluded that the critical thinking abilities of pre-service English language teachers with regard to the area of phonological acquisition are generally low, and they tend to favor the constructivist approach to teaching and learning. The research sought to contribute to the existing knowledge on this topic and identify areas for improvement within teacher education programs.

One of the key contributions of this study is its relevance to the field of English language teaching and teacher education. By focusing specifically on critical thinking skills in the context of phonological acquisition, it addresses an important aspect of language instruction. The results of the study provide valuable insights into the actual levels of critical thinking skills among pre-service English teachers. This knowledge can guide the development and design of appropriate curricula, instructional approaches, and professional development programs tailored to enhance critical thinking skills in phonological acquisition. It is vital to capitalize on the strengths identified in these pre-service teachers while also addressing their weaknesses through targeted interventions.

However, it is important to acknowledge the limitations of this study, which may leave certain big questions unanswered. For instance, the sample size and selection process could be a limitation, affecting the generalizability of the findings. Additionally, the specific context of phonological acquisition may limit the extent to which the results can be applied to other language learning domains, and thus further research is needed to fill these gaps.

Moving forward, there are opportunities to extend and build upon this investigation for answering the big questions in the field. Extensions of this work may include longitudinal studies to examine the progression of pre-service teachers' critical thinking skills over time, or more in-depth qualitative analyses to gain a deeper understanding of the underlying factors influencing these skills. Such extensions will provide valuable insights to inform teacher education programs, policymaking, and instructional practices in fostering critical thinking skills in pre-service English teachers.

In conclusion, the investigation of critical thinking skills of pre-service English teachers in the context of phonological acquisition is a crucial area of research that holds significance for language instruction. By assessing the current state of critical thinking skills among future English teachers, identifying areas for improvement, and proposing potential extensions, this study contributes to the ongoing efforts of enhancing teacher education programs and improving language instruction practices.

The adoption of critical thinking among pre-service English teachers has the potential to impact learners' performance in English comprehension, thereby influencing their ability to enhance their future students' learning outcomes. In order to address this issue, there is a pressing demand for highly competent prospective educators who possess a comprehensive set of critical thinking abilities, encompassing the capacity to evaluate arguments, scrutinize assumptions, make deductions, draw inferences, and effectively comprehend information.

Additional research on these methodologies could potentially yield advantages in enhancing the implementation of pre-service critical thinking abilities in the classroom environment. However, the incorporation of critical thinking abilities into many domains such as oral communication, active listening, and written expression could potentially open up new avenues for substantial outcomes. Hence, it is imperative to enhance the lecture format by incorporating these elements that have the potential to enhance critical thinking abilities.

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