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Implementing Learning Communities through the ELSA Application to Improve University Students' English Pronunciation

Dewi Untari[1*], Doni Hadi Irawan[2], Setyorini Dwi Agustini[3], Siti Yuliana[4]

Universitas dr Soebandi Jember[1,3,4] , Akademi Kelautan Banyuwangi[2]

ABSTRACT

This study aimed to improve university students' English pronunciation through the implementation of learning communities supported by the ELSA application. The research employed a Classroom Action Research (CAR) design involving first-semester students of Class 24B in the Nursing Study Program at dr. Soebandi University Jember. The study was conducted in two cycles, each consisting of planning, action, observation, and reflection stages. Learning communities were established to encourage collaborative practice, peer feedback, and shared responsibility for learning, while the ELSA application was used to provide automated pronunciation assessment and immediate corrective feedback. Data were collected through pre-test and post-test pronunciation assessments, classroom observations, and questionnaires to examine changes in students' pronunciation ability, learning engagement, and perceptions toward technology-assisted learning. Quantitative data were analyzed by calculating mean scores and percentage improvements, while qualitative data were analyzed descriptively based on observation notes and questionnaire responses. The findings revealed a significant improvement in students' English pronunciation, with the average score increasing from 62.3% in the pre-test to 71.0% in Cycle I and further improving to 81.5% in Cycle II. Observational and questionnaire data indicated increased student participation, collaboration, and positive attitudes toward the use of the ELSA application, although improvements in self-confidence were not evenly experienced by all students. Overall, the integration of learning communities and the ELSA application proved effective in enhancing English pronunciation and supporting technology-enhanced collaborative learning in higher education contexts.

Keywords: *ELSA Application, Learning Communities, English Pronunciation, Classroom Action Research, University Students*

Corresponding Author:
Dewi Untari
(dewiuntari@uds.ac.id)

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1. INTRODUCTION

English pronunciation remains one of the most challenging aspects of second language acquisition for university students, particularly in contexts where English is learned as a foreign language. Despite years of formal instruction, many students continue to produce frequent pronunciation errors that affect intelligibility, including incorrect stress patterns, segmental errors, and inappropriate intonation (Waziana et al., 2016). These persistent difficulties are often caused by limited exposure to authentic spoken English, insufficient pronunciation-focused instruction, and a lack of individualized feedback in traditional classroom settings (Dwi Amanda et al., 2023).

Previous studies indicate that inaccurate pronunciation can negatively influence students' academic communication, professional readiness, and self-confidence when using English orally (Levis, 2018). However, pronunciation instruction is frequently underemphasized in higher education curricula, as instructors face time constraints and large class sizes that hinder intensive pronunciation practice and corrective feedback (Ramly, 2021). As a result, many students demonstrate a high frequency of pronunciation errors even after completing foundational English courses.

Advances in educational technology have introduced artificial intelligence–based applications as potential solutions to these instructional challenges. The ELSA (English Language Speech Assistant) application utilizes automatic speech recognition to provide immediate, individualized feedback on learners' pronunciation accuracy. Research on computer-assisted pronunciation training suggests that such technology can significantly improve learners' phonological awareness and reduce pronunciation errors through repeated practice and instant correction (Novia et al., 2025). Nevertheless, empirical evidence regarding the extent to which ELSA specifically contributes to overcoming students' pronunciation difficulties in higher education contexts remains limited.

Moreover, existing research has largely focused on learning outcomes without sufficiently examining how technology-based tools address the specific types and frequency of pronunciation errors encountered by learners (Journal et al., 2024). This indicates a research gap concerning the measurable contribution of AI-assisted pronunciation applications in resolving students' pronunciation problems in classroom-based instruction.

Therefore, this study aims to identify the extent of the contribution of the ELSA application in addressing pronunciation difficulties experienced by university students. The research focuses on analyzing changes in students' pronunciation performance and the reduction of pronunciation errors through the implementation of ELSA-supported learning activities. Using a Classroom Action Research approach, this study investigates pronunciation improvements across instructional cycles. It is hypothesized that the integration of the ELSA application will significantly reduce pronunciation errors and contribute positively to students' English pronunciation development.

2. METHODS

This study employed a Classroom Action Research (CAR) design to examine the contribution of the ELSA application in addressing students' pronunciation difficulties. Classroom Action Research was selected because it enables systematic improvement of instructional practices through reflective cycles conducted in real classroom settings (Rohmah et al., 2023). The research was carried out over a two-month period and consisted of two cycles, each comprising four stages: planning, action, observation, and reflection. This cyclical process allowed the researcher to identify pronunciation problems, implement technology-assisted instructional strategies, and refine the intervention based on reflective evaluation (Tremblay et al., 2016). The integration of the ELSA application was designed to provide immediate automated feedback, which has been shown to support pronunciation accuracy and learner autonomy in second language learning contexts (Stevani et al., 2023)

The participants of the study were 20 first-semester university students enrolled in an English course, selected using total sampling to ensure that the intervention reflected authentic classroom conditions. Data were collected using pronunciation pre-tests and post-tests administered at the beginning and end of each cycle to measure changes in students' pronunciation accuracy. Observations were conducted using structured observation sheets to document student engagement and learning behavior, while questionnaires were used to capture students' perceptions of the ELSA application. Quantitative data were analyzed descriptively by calculating mean scores and percentage improvements across cycles, whereas qualitative data from observations and questionnaires were analyzed thematically

to support and interpret the numerical findings(Nabilah et al., 2024) This mixed analytical approach enhanced the reliability and validity of the findings and allows the study to be replicated by other researchers in similar instructional contexts (Sabilla et al., 2025)

3. RESULTS AND DISCUSSION

The results of this study directly answer the research question concerning the extent to which the ELSA application contributes to improving students' learning activities and English pronunciation. The processed research data indicate a consistent increase in students' average learning activity and pronunciation scores across the research stages. As presented in Table 1, the average score increased from **62.3% in the pre-test** to **71.0% in Cycle I**, and further improved to **81.5% in Cycle II**. This progression demonstrates that students' engagement and pronunciation performance improved systematically after the implementation of the ELSA application through Classroom Action Research.

Table 1. Criteria of Average Percentage of Students' Learning Activities

Research Stage	Average Score(%)	Activity Criteria
Pre-Test	62.3	Moderate Active
Cycle I	71.0	Active
Cycle 2	81.5	Very Active

The discussion of these findings confirms that the use of the ELSA application effectively enhanced students' learning activities and pronunciation outcomes. The increase observed in Cycle I indicates that students began to adapt to technology-assisted pronunciation practice, supported by immediate feedback and guided learning tasks. The further improvement in Cycle II suggests that repeated exposure to the application and collaborative learning activities strengthened students' participation, practice intensity, and accuracy in pronunciation. These results confirm the research hypothesis that integrating technology-based pronunciation tools within classroom instruction can significantly reduce pronunciation difficulties. However, qualitative observation data revealed that while cognitive and behavioral improvements were evident, some students still demonstrated limited confidence when speaking English. This indicates that although the research results confirm the effectiveness of the intervention in improving measurable learning outcomes, affective aspects such as self-confidence may require extended instructional time or complementary pedagogical strategies. Overall, the findings validate the effectiveness of the ELSA application and provide clear answers to each research variable investigated.

4. CONCLUSION

This study concludes that the integration of learning communities through the ELSA application effectively addresses students' pronunciation challenges and enhances their engagement in English learning activities. The findings demonstrate that technology-assisted pronunciation instruction provides meaningful learning support by enabling continuous practice, increasing students' awareness of pronunciation accuracy, and facilitating reflective learning within collaborative environments. The use of automated feedback encourages learner autonomy and supports instructional improvement when combined with systematic classroom-based interventions, confirming the relevance of Classroom Action Research in evaluating pedagogical innovations (Riyani & Istiana Sari, 2020). However, the results also suggest that while technological tools can significantly improve linguistic performance, affective factors such as students' speaking confidence require sustained instructional support and longer-term learning experiences (Untari et al., 2024). Therefore, future research is recommended to examine the long-term impact of pronunciation technologies on learners' confidence, analyze pronunciation error patterns using advanced speech recognition systems, and explore the application of similar

technological interventions across diverse educational contexts and disciplines (Of & Review, 2022).

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