The Effectiveness of a YouTube-Based Pronunciation Learning Model Integrating Local Wisdom for Junior High School Students

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Article Info	Abstract
	It was aimed to assess the efficacy of integrating local knowledge into YouTube-based pronunciation instruction through a deep learning pedagogical framework. A Research and Development (R&D) design was utilized alongside a quasi-experimental method to create a culturally contextualized digital pronunciation module and assess its effect on students' pronunciation performance. The study took place at UPTD SMP Negeri 4 Bireuen in Aceh, with 60 students of the ninth grade randomly divided into an experimental group and a control group. We gathered data by giving them pronunciation tests before and after the tests and then used independent samples t-tests to look at the results. The preliminary test findings showed that there was no statistically significant difference between the two groups, which meant that their baseline pronunciation skills were similar. However, The subsequent test results indicated that the group performing the experiment significantly outperformed the control group ($p < .05$), which means that the instructional intervention worked. The results show that using Acehnese local wisdom, especially Khanduri Blang, in YouTube-based pronunciation learning helps students pronounce words more accurately, learn more consistently, and stay interested. The study theoretically enhances the application of deep learning as a pedagogical framework in culturally contextualized digital learning environments and provides practical implications for EFL educators and curriculum developers in creating meaningful and culturally responsive pronunciation instruction.

Artikel Info	Abstrak
	Penelitian ini bertujuan untuk mengkaji efektivitas integrasi kearifan lokal dalam pembelajaran pelafalan berbasis YouTube melalui pendekatan pedagogis *deep learning*. Mengembangkan modul pelafalan digital yang terintegrasi dengan konteks budaya dan mengevaluasi efeknya terhadap kemampuan pelafalan siswa, desain Research and Development (R&D) digunakan yang dikombinasikan dengan teknik kuasi-eksperimen. Penelitian dilaksanakan di UPTD SMP Negeri 4 Bireuen, Aceh, dengan melibatkan 60 siswa kelas IX yang dipilih secara acak dan dibagi ke dalam kelompok eksperimen dan kelompok kontrol. Data dikumpulkan melalui tes pelafalan sebelum dan sesudah perlakuan serta dianalisis menggunakan uji *independent samples t-test*. Hasil *pre-test* menunjukkan tidak terdapat perbedaan yang signifikan antara kedua kelompok, yang mengindikasikan kesetaraan kemampuan pelafalan awal. Namun, hasil *post-test* menunjukkan adanya peningkatan yang signifikan secara statistik pada kelompok eksperimen dibandingkan dengan kelompok kontrol ($p < 0,05$), yang menandakan bahwa intervensi pembelajaran yang diterapkan efektif. Temuan penelitian ini menunjukkan bahwa integrasi kearifan lokal Aceh, khususnya *Khanduri Blang*, dalam pembelajaran pelafalan berbasis YouTube mampu meningkatkan akurasi pelafalan, konsistensi belajar, serta keterlibatan siswa. Secara teoretis, penelitian ini berkontribusi dengan memperluas penerapan pembelajaran mendalam sebagai kerangka pedagogis dalam lingkungan pembelajaran digital yang terkontekstualisasi secara budaya. Secara praktis, penelitian ini memberikan implikasi bagi guru EFL dan pengembang kurikulum dalam merancang pembelajaran pelafalan yang bermakna dan responsif terhadap konteks budaya lokal.

I. INTRODUCTION

The rapid development of digital technology has transformed English instruction, particularly in the area of pronunciation learning. Pronunciation is acknowledged as an essential element of oral competency, as it directly influences intelligibility and communication skill. Nonetheless, EFL learners, particularly at the junior high school level, frequently encounter enduring challenges in acquiring English pronunciation due to restricted exposure to authentic input, inadequate practice

opportunities, and pedagogical methods that prioritize segmental accuracy over substantive communication. At the Indonesian junior high school context, Pronunciation appears to be one of the most formidable challenges of English learning. The main difficulty faced by students is imitating and understanding correct pronunciation, which impacts their overall communication skills. These problems necessitate novel instructional methods that integrate digital media, contextual significance, and pedagogical profundity. In an academic context, improving listening skills thru effective note-taking techniques has been identified as one method that can help students better understand English (As'ari and Zulfikar, 20218).

YouTube has become one of the most significant educational resources in EFL situations among other digital platforms. YouTube media can be an effective media if it is prepared well (Bakhtiar et al. 2024). An increasing volume of research substantiates that YouTube offers ample audiovisual input, genuine language application, and learner-directed repetition, which are especially advantageous for the enhancement of pronunciation. Videos from YouTube used as a learning medium play a positive role in fostering learning enthusiasm and attracting students' attention to focus more on learning activities. Students additionally find it more comprehensible to grasp the stuff offered. (Nasution et al. 2024). Systematic and empirical research repeatedly demonstrates beneficial impacts of YouTube-based education on learners' pronunciation accuracy, motivation, and engagement (Abbas & Qassim, 2020; Nurdianti, 2022; Zitouni et al., 2021; Putri & Karmila, 2024; Kusuma et al., 2024; Iswara et al., 2025). Furthermore, the use of YouTube videos improved students' pronunciation (Ananda et al. 2024). A recent systematic review by Abbas et al. (2025) highlights that YouTube promotes multimodal learning and learner autonomy, making it an effective medium for English training across diverse educational settings. Students exhibit predominantly favorable opinions regarding the use of YouTube, as they indicate heightened confidence, enjoyment, and reported enhancement in pronouncing abilities (Tahmina, 2023; Phuong & Loi, 2023).

In addition to access to digital media, modern educational discussions emphasize the significance of meaningful learning that links classroom instruction with students' real-life circumstances. Fullan, Quinn, and McEachen (2018) contend that profound learning transpires when students participate in educational experiences that are pertinent, culturally rooted, and socially significant. This viewpoint posits that in pronunciation education, mere exposure to realistic models is inadequate unless learners can connect the learning materials to their cultural and social identities. As a result, the incorporation of local wisdom into language acquisition has garnered heightened interest as a means to improve relevance, motivation, and identity validation.

In the Acehnese environment, local wisdom is profoundly embedded in cultural and religious activities, exemplified as Khanduri Blang, a traditional agricultural ceremony that encapsulates communal values, symbolic significance, and Islamic tenets. Research conducted by Attas, Gomo, and Anoegrajekti (2021) alongside Rukaiyah et al. (2021) illustrates that Khanduri Blang embodies communal collaboration, gratitude, and moral instruction conveyed through symbolic gestures and oral traditions. Integrating local cultural elements into educational activities protects cultural heritage and enhances learners' sense of belonging and contextual comprehension. Incorporating local wisdom into language learning curriculum can provide significant material that connects global language usage with local identity.

Alongside cultural integration, technical advancements in pronunciation acquisition have progressed through speech-based and media-based systems. Bashori et al. (2024) demonstrate that technology-enhanced pronunciation instruction, especially when facilitated by interactive and feedback-driven systems, markedly enhances learners' confidence and intelligibility. Despite the growing exploration of automatic speech recognition techniques, YouTube continues to be more accessible and contextually flexible for secondary school environments in developing nations. Yassin (2024) emphasizes that YouTube fosters linguistic development and cultural awareness, rendering it an appropriate medium for incorporating local and global viewpoints in EFL education.

Although there has been considerable study on YouTube-based pronunciation learning, few studies have specifically investigated instructional approaches that intentionally include local wisdom into YouTube video for junior high school students, especially within the Aceh setting. Most current research emphasizes pronunciation results or learner impressions,

neglecting cultural relevance and the principles of deep learning. Consequently, a distinct research need exists in investigating how a YouTube-based pronunciation learning approach that incorporates local expertise might effectively improve students' pronunciation skills while promoting meaningful and culturally sensitive education.

This research investigates the efficacy of a YouTube-based pronunciation learning strategy that integrates local wisdom for junior high school students, conducted at UPTD SMP Negeri 4 Bireuen. This study aims to experimentally and conceptually enhance EFL pronunciation instruction by integrating digital media, pronunciation pedagogy, deep learning principles, and Acehnese local wisdom, particularly in culturally diverse and multilingual educational settings.

II. METHOD

A Research and Development (R&D) framework was employed in conjunction with an experimental technique to develop and assess how efficient of a YouTube-based pronunciation learning model using Acehnese local wisdom. The R&D technique was employed to methodically design, build, and validate a digital pronunciation learning module based on local cultural content, while the experimental method was utilized to empirically assess the instructional efficacy of the developed product.

The objective of the experimental phase was to determine whether a statistically important distinction existed in students' English pronunciation following the utilization of the digital module. An experimental group received the treatment, and its effects were compared with those of a control group that received traditional pronunciation teaching.

The research was carried out at UPTD SMP Negeri 4 Bireuen, Aceh, Indonesia, from October 9 to November 6, 2025. The research population comprised 210 ninth-grade students allocated across six courses. A random sampling method was employed to choose 60 students for the research sample, which was then divided into two groups: Class IX-1 as the experimental group and grade IX-2 as the control group, each consisting of 30 students.

The experimental methodology encompassed both for control group framework. Before the Intervention, both groups took a pre-test to see how well they could pronounce words. Students were instructed to say 20 English words one at a time during the pre-test, and their performances were graded to see how well they could pronounce them at first.

After the pre-test, the experimental group learned how to pronounce words using a digital module based on YouTube that included local knowledge. The control group learned using traditional teaching methods. During the therapy sessions, students in the experimental group were shown certain YouTube videos and taught how to use them to improve their pronunciation. The lessons focused on repeated exposure, copying speech models, and guided practice.

Upon the conclusion of the session, a post-test was conducted for both groups to assess the positive effects of the instruction. The post-test mirrored the format of the pre-test, requiring learners to articulate the identical English words. The students' pronunciation performances were graded on how well they made sounds, how well they stressed words, and how clear their speech was overall. Statistical analysis was then used to find out how important the differences between the two groups were in line with its outcomes.

The Research and Development (R&D) methodology utilized in this study adhered to a methodical approach encompassing instructional design, development, implementation, and assessment to guarantee the validity and efficacy of the created learning model. Educational innovation research strongly advocates for the amalgamation of research and development (R&D) with experimental methodologies, facilitating the creation of pedagogical products and their empirical validation in genuine classroom environments (Sugiyono, 2018; Gall, Gall, and Borg, 2021). This methodology validated the YouTube-based pronunciation module combined with local wisdom before assessing its effect on students' pronunciation performance.

III. RESULT AND DISCUSSION

A. Result

1. Results of the pretest for Control and Experimental groups

Both had mean pre-test scores of 70.37 and 70.67, respectively, which means that their pronunciation skills were about the same at the start. The Shapiro–Wilk test validated the normally distributed set of preliminary test results for both the control group ($p = .077$) and the experimental group ($p = .065$), whereas Levene's Test indicated the homogeneity of variances between the two groups ($p = .808$). Upon satisfying the criteria of

normality and homogeneity, an independent samples t-test was employed to examine the differences in pre-test pronunciation scores between them.

Table 1. The Independent Samples t-Test of Control and Experimental groups pretest

Assumption	F	Sig.	t	Df	Sig.(2-tailed)	Mean Difference	Std. Error Difference	95%CI Lower	95%CI Upper
Equal variances assumed	0.060	0.808	-0.202	58	0.841	-0.300	1.485	-3.272	2.672

The results indicated that Levene's Test for Equivalent of variation was not relevant (F = 0.060, p = 0.808). This means that the variances between the control and experimental groups were the same. Consequently, the analysis was performed under the premise of equal variances.

The t-test results indicated no statistically significant difference in pronunciation scores between the two groups, t(58) = -0.202, p = 0.841 (two-tailed). The average difference between the groups was -0.300, and the 95% confidence range was from -3.272 to 2.672. The confidence interval encompassed 0, indicating that the disparity in pronunciation performance across the two categories was not of statistical importance.

2. Results of Control and Experimental groups posttest

The findings of the post-test showed a clear difference in how well the control and experimental groups pronounced words. In the control group (n = 30), post-test scores varied from 60 to 86, predominantly falling between 65 and 75. The mean score was 71.33 (SD = 6.09),

which means that there was moderate improvement with a fairly wide range of scores after regular teaching. The experimental group (n = 30), on the other hand, had higher post-test scores, with a mean score of 75.73 (SD = 4.72) and values that ranged from 68 to 85. The higher mean score and lower standard deviation suggest that the students who had the guidance did better at pronunciation and were more consistent in their work. In general, the findings reveal that the trial group outperformed the comparison group in both score level and score distribution.

Before performing inferential analysis, the prerequisites for parametric testing were evaluated. The Shapiro–Wilk

normality test showed that the scores after the test for both the control group (W = 0.939, p = .086) and the experimental group (W = 0.953, p = .198) were normally distributed. Levene's Test for equality of variances yielded a non-significant result (p = .279), demonstrating that the variances between those groups were homogeneous. Consequently, both the normality and the homogeneity assumptions were fulfilled, permitting the application of an independent samples t-test under the condition of presumed equal variances.

Table 2. The Independent Samples t-Test of Control and Experimental groups post-test

Assumption	F	Sig.	t	Df	Sig.(2-tailed)	Mean Difference	Std. Error Difference	95%CI Lower	95%CI Upper
Equal Variances assumed	1.196	0.279	-3.127	58	0.003	-4.400	1.407	-7.217	-1.583

The Independent Samples t-test results revealed that Levene's Test for Equality of Variances was not significant (F = 1.196, p = 0.279), indicating that the variances of the groups were homogeneous. Consequently, the analysis was performed based on the presumption of equal variances. The post-test findings showed a statistically significant difference in pronunciation ratings between the experimental and control groups, t(58) = -3.127, p = 0.003 (two-tailed). he mean difference between the groups was -4.400, with a 95% probability that the actual difference is between -7.217 and -1.583. The results show that the experimental group did better at pronunciation than the control group.

B. Discussion

The findings of this study demonstrate that the control and experimental groups possessed comparable pronunciation abilities at the onset of the intervention. The pre-test results revealed nearly identical mean scores (70.37 for the control group and 70.67 for the experimental group), and the t-test of independent samples confirmed the absence of a statistically significant difference between both groups before to treatment (p = .841). This baseline equivalence suggests that any differences noted in the post-test can be more reliably ascribed to the instructional intervention instead of pre-existing

disparities, conforming to methodological standards in quasi-experimental educational research (Gall, Gall, & Borg, 2021).

In contrast to the pre-test findings, it exhibited a statistically significant difference between the control and experimental groups, with the experimental group surpassing the control group (t(58) = −3.127)., p = .003). The elevated mean score and reduced standard deviation in the experimental group indicate enhanced pronunciation accuracy and increased consistency among learners. This result corroborates other empirical findings suggesting that technology-enhanced pronunciation training, especially via YouTube-based learning, can provide significant improvements in learners' phonological performance (Abbas & Qassim, 2020; Nurdianti, 2022; Zitouni et al., 2021).

The notable enhancement seen in the group receiving the experiment supports recent research highlighting the educational significance of YouTube as a genuine and multimodal learning tool. In their systematic review, Abbas, Awad, and Mohaisen (2025) found that YouTube offers abundant audiovisual resources, consistent exposure to native or near-native pronunciation exemplars, and learner-regulated pacing, all of which are essential for enhancing pronunciation abilities. Tahmina (2023) and Phuong and Loi (2023) similarly showed that learners find YouTube-based pronunciation instruction enjoyable and effective, perhaps enhancing motivation and persistent practice—two critical variables in pronunciation improvement.

The findings align with the deep learning concepts articulated by Fullan, Quinn, and McEachen (2018), which underscore learner involvement, significant interaction, and the utilization of real-world resources. The YouTube intervention likely enhanced cognitive and emotional engagement by enabling students to connect with actual pronunciation models beyond the constraints of conventional classroom training. This corresponds with Hattie's (2023) synthesis, which emphasizes that instructional methods integrating explicit modeling, feedback, and learner autonomy generally provide greater effect sizes on student accomplishment.

Moreover, the results align with pronunciation studies that emphasize the significance of exposure, feedback, and consistent practice. Research on technology-

enhanced pronunciation learning, encompassing mobile-assisted and ASR-based systems, has repeatedly demonstrated beneficial impacts on learners' pronunciation accuracy (Bashori et al., 2024; Lan, 2022; Metruk, 2024). The current study did not utilize automatic speech recognition; however, the structured use of YouTube videos served as an effective substitute by offering accessible pronunciation models and facilitating self-monitoring, as indicated by Kusuma, Mardiana, and Saifulloh (2024).

Moreover, the integration of culturally pertinent content, as indicated in research on local culture assimilation (Attas & Anoegrajekti, 2021; Rukaiyah et al., 2021), could further augment learner engagement when YouTube resources are meticulously curated or developed. Although cultural integration was not the main variable in this study, subsequent research may investigate how culturally contextualized YouTube video can concurrently enhance pronunciation development and cultural awareness, as suggested by Yassin (2024).

The review of the outcomes of the tests illustrates that the YouTube-based pronunciation learning model utilized in the experimental group effectively enhanced students' pronunciation performance. The statistically significant difference observed in the post-test, along with theoretical and empirical backing from previous research, indicates that YouTube can function as an effective instructional medium for teaching pronunciation in EFL environments. Further study utilizing bigger samples, extended intervention durations, and supplementary qualitative data is advisable to enhance comprehension of the mechanisms by which YouTube-based education promotes pronunciation enhancement.

IV. CONCLUSION AND SUGGESTIONS
A. Conclusion

This study finds that incorporating local wisdom via YouTube-based pronunciation training, underpinned by a deep learning approach, constitutes a successful and pedagogically valid innovation for junior high school EFL learners. The similarity of first findings across the control and experimental groups showed that the baseline pronunciation skills were the same, which made it more reliable. The statistically substantial improvement seen by the

experimental group in the post-test shows that culturally embedded, multimodal digital training is better at improving pronunciation accuracy and learning consistency than traditional techniques. By integrating the Acehnese traditional practice of Khanduri Blang, the teaching method enhanced phonological processing and increased learner engagement, allowing pupils to establish significant connections between linguistic input and their sociocultural context. The study offers empirical evidence that the amalgamation of indigenous knowledge, digital media, and deep learning principles can significantly enhance pronunciation learning outcomes in the EFL environment.

B. Suggestion

Based on these findings, it is recommended that English teachers include local wisdom into pronunciation education, especially via accessible digital platforms like YouTube, to improve learner motivation, engagement, and understanding. Professional development programs ought to assist educators in creating culturally relevant and technology-enhanced educational resources. Additionally, curriculum creators and educational institutions are urged to integrate local-culture-based digital resources into secondary-level EFL curricula to foster linguistic advancement and cultural preservation. Subsequent research ought to broaden this study by incorporating larger and more heterogeneous samples, various educational tiers, and distinct cultural settings to improve the applicability of what was found. Further research is advised to examine the long-term effects of YouTube-based pronunciation instruction, its influence on other language skills, and the utilization of mixed-methods approaches to obtain more profound insights into learners' perceptions and cognitive processes when interacting with culturally relevant digital learning materials.

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