SIPONO APPLICATION AS AN INNOVATION IN LEARNING MEDIA OF JAVANESE VOCABULARY PRONUNCIATION

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Abstract: Phonological errors in both writing and pronouncing Javanese vocabulary are errors that often occur in various circles of society, especially among students. Errors generally occur in typical Javanese phonemes, namely /a/, /ɔ/, /d/, /D/, /t/, /T/, /e/, /Ə/, and /Ɛ/. This phenomenon can certainly hinder students from achieving Javanese language learning competencies. If this phenomenon is allowed to continue, it can also threaten the existence of good and correct use of the Javanese language in everyday life. One of the contributing factors is the limited availability of learning media. Therefore, there is a need for innovation in the development of technology-based media that can support Javanese language learning. This research aims to describe the development and implication of using the SIPONO application in Javanese language learning at schools, making it a technology-based medium that supports competency achievement. This research uses mixed methods. A qualitative approach is used to obtain problem data and analyze the needs of learning media and a quantitative approach is used to obtain trial data on the use of the application. Data collection techniques included questionnaires and interviews. The informants in this study were linguists, Javanese language teachers, and students. The validity of the data was tested by triangulating the sources. The data analysis technique was carried out with a flow analysis model. The results of the study describe: (1) the development of the Android-based SIPONO application is carried out through the design, design, production, and trial stages; and (2) the SIPONO application has positive implications and can support Javanese language learning as a medium for pronouncing Javanese vocabulary for students. Thus, the SIPONO application is a flexible, android-based media innovation for learning the pronunciation of Javanese vocabulary as well as an effort to preserve the Javanese language through education.

Keywords: android application, Javanese vocabulary, learning media, phonemes, pronunciation

Introduction

Indonesia's population consists of various ethnic groups spread across various provinces in Indonesia. This diversity affects the diversity of regional languages spoken by the community. Javanese is one of the regional languages that is still used in Indonesia. The Javanese language is used by Javanese people who have variety and dialect with the largest number of speakers in Indonesia (Cohn & Ravindranath, 2014; Kartikasari & Laksono, 2022; Kurniadi et al., 2016; Rofifah, 2015). The quantity of Javanese speakers is one of the supporting factors for the preservation of regional languages in Indonesia.

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However, along with the times and the impact of the phenomenon of bilingualism and multilingualism, phenomena related to the Javanese language now often occur (Ayu et al., 2014; Sakti & Nakamura, 2014). Without realizing it, some language errors can occur in the use of language in everyday life. Errors in the use of Javanese can occur when speakers speak, read, or write. These errors include the phenomena of code switching, code mixing, phonological errors, morphological errors, syntactic errors, and so on (Tho et al., 2021). The phenomenon of code-switching and code-mixing is common among the younger generation. They often combine several languages in one speech. For example, there is the interference of Indonesian (as the national language) and English and Arabic (as foreign languages) in Javanese. In addition, errors at the sentence level and meaning also occur in society, both in the form of writing and direct speech.

Of the several language errors that have been described, phonological errors in pronunciation are a common occurrence in society, particularly among students. The occurrence of phonological errors in Javanese is undoubtedly linked to language users' phonological awareness. The level of speed with which language users understand the relationship between letters and sounds produced in Javanese is connected to their phonological awareness (Maruti, 2021; Yulianto & Samsiyah, 2021).

In this case, students need to understand the basics of Javanese phonology because it discusses the sound structure of the language both in the formation of sounds and sounds heard (Aprillianti, 2019; Maimun et al., 2022). Students should know that letter pronunciation errors can affect the semantic meaning of the spoken word. Mispronunciation of sounds or words can also cause misunderstandings and several other communication problems so that the meaning of speech cannot be conveyed properly. This error is experienced by many students in the use of the Javanese language with several variations of phonemes orally, both speaking and reading. Therefore, is is crucial for students, especially those in East Java, Central Java, and the Yogyakarta Special Region, to learn the basics of Javanese phonology.

Pronunciation errors generally occur because in the Javanese language there are several special phonemes that are unique to the Javanese language, namely in the form of phonemes: /a/, /ɔ/, /d/, /D/, /t/, /T/, /e/, /Ә/, and /Ɛ/ (Adipranata et al., 2018). These phonemes often have errors in pronunciation. For example, the words *wedi* 'fear' and *wedhi* 'sand' are often confused or have the same pronunciation. These errors are found in the pronunciation of the phonemes /d/ and /D/. Other examples include the pronunciation of phonemes /o/ and /ɔ/ between the words *loro* 'two' and *lara* 'pain', the pronunciation of phonemes /t/ and /T/ between the words *tutuk* 'mouth' and *thuthuk* 'hit', the pronunciation of phonemes /Ә/ and /Ɛ/ between the words *cӘmӘng* 'black' and *cӘmƐng* 'kitten', and various other examples. From these examples, it is clear that the phonological mispronunciation of a word can affect the truth of its semantic meaning. In the field, this error is often found in singers of Javanese popular songs, speeches, lectures, greetings, and conversations in a relaxed atmosphere in Javanese.

Other examples of errors were also found when learning Javanese in class. Students often make mistakes in pronouncing the sounds of Javanese vocabulary both when speaking and reading. In addition, students also write Javanese vocabulary that does not match the spelling which causes students' language skills to be low and cannot achieve the required competency in learning. These errors occur due to the lack of supportive learning media (Nurmasari et al., 2017). Actually, the

teacher has given examples of correct pronunciation and writing directly or verbally, but this is easily forgotten by students.

This phenomenon has also been investigated by previous researchers. Maruti's research (2021) showed that Javanese phonological errors in elementary school students mostly occurred in the writing of vowels <a> and the pronunciation of the sounds /D/ and /T/. Yulianto et al. (2021) also found that apart from students, prospective Javanese language teachers also had a low level of phonological awareness. The factors causing this phenomenon are complemented by the research of Nurmasari et al. (2017) namely the habits of students in the community, incompetent teachers, limited class hours, complexity of the Javanese language, and limited media for learning Javanese.

Technological developments must be used positively in learning (Hasanah et al., 2020). Based on the author's search for media on the Play Store and the internet, until now there has been no special media that functions to learn the proper and correct pronunciation of Javanese vocabulary. In fact, this media is needed in learning. Therefore, it is necessary to develop media that can help students to learn the pronunciation of Javanese vocabulary properly and correctly. In this case, the author is interested in developing an android-based application called SIPONO (short for Javanese Phoneme Learning) which can be used as a media to support Javanese language learning in schools. The authors hope that the outcome of this research can become a breakthrough and be utilized by teachers and students for Javanese language pronunciation learning at schools.

Materials and Methods

This research uses mixed methods. A qualitative approach is used to obtain problem data and analyze the needs of learning media. A quantitative approach is used to obtain trial data on the use of the application. Qualitative data combined with quantitative data are used for further analysis to draw conclusions aligned with the research objectives. Data collection techniques using questionnaires and interviews. Data collection techniques involve online questionnaires and semi-open interviews based on prepared guidelines. Interviews were chosen to delve deeper into the issues faced by informants regarding Javanese vocabulary pronunciation, while questionnaires were used to gather feedback on the application's usability during the testing phase.

The informants in this study were linguists, Javanese language teachers, and students. Informants were randomly selected from three regions where Javanese is taught: East Java, Central Java, and Yogyakarta Special Region. Random selection ensures a comprehensive understanding of the issues experienced by teachers and students. Data validity is confirmed through source triangulation. The data analysis technique is carried out with a flow analysis model, including data condensation, data presentation, and drawing conclusions (Miles et al., 2015).

Data collection at the pre-development stage was carried out by interviewing informants regarding the problems of pronunciation errors experienced by students. At this stage also obtained data related to

the need for learning media that can help students pronounce Javanese vocabulary correctly. Based on the obtained data, the SIPONO application's features are developed to meet the identified needs. After the application has been developed, the post-development stage is carried out by testing the application to respondents, namely teachers and students. At this stage, respondents were asked to provide an assessment and impression of the application developed through the questionnaire distributed. Thus, the research results obtained will be used as a basis for discussion in the next section.

This part should contain sufficient detail to reproduce reported data. It can be divided into subsections if several methods are described. Methods already published should be indicated by a reference, only relevant modifications should be described. This section should be written concisely in detail by maintaining continuity of the texts.

Results and Discussion

Development of SIPONO Application

The SIPONO application was developed based on an analysis of media needs that can help learning Javanese in schools, especially in terms of correct pronunciation of Javanese vocabulary sounds. This development is carried out through four stages: planning, design, production, and trial stages. The four stages are described as follows.

1. Planning stage

The design is done by compiling concepts, themes, genres, and substance. The SIPONO application is designed with the concept of android-based learning media with a fun theme. This application is in the audiovisual genre because there are audio, video, images, and text in one application. Meanwhile, the substance of this application is designed as well as possible so that it can provide knowledge to users regarding phonology, analysis of pronunciation errors on certain phonemes, and examples of correct pronunciation of Javanese vocabulary.

2. Design Stage

After the design is considered complete, then the application display design is carried out. Display design is done with the help of CorelDRAW software. This design includes the creation of application logos, icons and buttons, menu layout, and content display.

3. Production Stage

This stage begins with the production of content material in the form of explanatory videos and audio pronunciations. Recording is done with the help of an audio and video recorder. Next, the application development is carried out through the Unity software to connect each button and display that will appear. Here are some examples of the SIPONO application display that the author developed:

Figure 1: Main Menu of SIPONO Application

The display of application main menu as shown in Figure 1 is the first view seen by the user or the homepage. This view contains the menu arrangement or features available in the application, namely the *Pambuka* (introduction), *Analisis Lagu* (song analysis), *Pangucapan* (pronunciation), *Gladhen* (practice/quiz), and *Ngenani Aplikasi* (about the application).

Figure 2: *Pambuka* Menu

The *Pambuka* menu (introduction) as shown in Figure 2 contains brief material on phonemes, the importance of learning phonemes, and brief instructions for using the application. This menu provides an overview to users or students that this application can help students learn to pronounce Javanese vocabulary correctly.
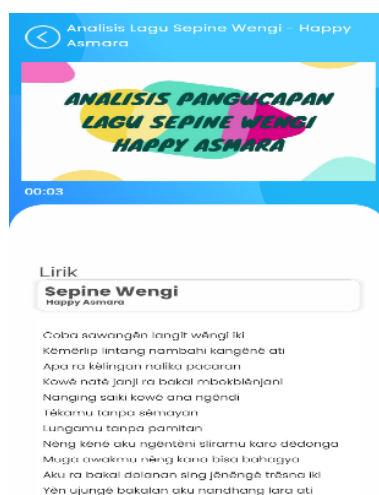
Figure 3: *Analisis Lagu* Menu

The *Analisis Lagu* (song analysis) as shown in Figure 3 contains an explanation video of the analysis of phoneme pronunciation errors in Javanese popular songs by analyzing video clips of popular Javanese songs. The songs were chosen as practical examples because they provide a deeper understanding to students regarding pronunciation errors and how to pronounce the correct sound of a word. This analysis video also contains proper pronunciation corrections. Below the video, provided song lyrics that have been written according to the Javanese spelling and accompanied by diacritical marks to make it easier for readers.
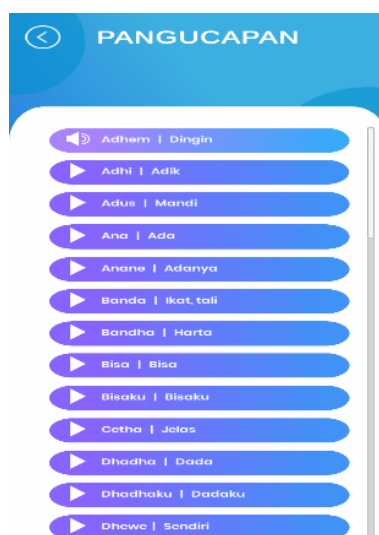

Figure 4: *Pangucapan* Menu

The *Pangucapan* (pronunciation) menu as shown in Figure 4 contains a list of Javanese vocabulary containing special phonemes accompanied by meanings in Indonesian. In this menu, the user can press the vocabulary button to listen to the correct pronunciation and imitate it.

Figure 5: *Gladhen* Menu

The *Gladhen* menu as shown in Figure 5 contains quizzes or questions related to the correct writing of the images seen and audio pronunciations that have been listened to. In this menu, the user or student must observe the writing and audio pronunciation carefully to find the right answer. This menu serves as an exercise to test students' understanding of proper pronunciation and writing of Javanese vocabulary.

4. Trial Stage

Trial tests were carried out technically and functionally. Technical testing is carried out by the development team to test the application can run normally or not. This test is to ensure that the application is technically in accordance with the initial design without any system defects or errors. After passing the technical test, then a function test was carried out on the respondents. In this case, teachers and students as respondents tried to operate the SIPONO application on their respective smartphones. Furthermore, respondents were asked to give an assessment of the functionality and flexibility of the application through a questionnaire that had been given. This trial stage can be done remotely because the research product is an android-based application that can be accessed at various places and times.

When respondents conduct trials on the use of the SIPONO application, the steps for operating the SIPONO application that must be carried out by respondents are as follows.

a. Students download and install the SIPONO application on an android-based smartphone. The page for downloading the SIPONO application has been provided and shared by the teacher beforehand.

b. After the application is successfully installed, students open the application until the main menu appears as shown in Figure 1 above.

c. Students can start learning material from each available menu. For example, in the *Analisis Lagu* (Song Analysis) menu (Figure 3), students can learn examples of phonological errors in popular Javanese songs. Then, students can find out how to pronounce the correct vocabulary based on phonological rules.

d. Next, students can go to the *Pangucapan* (Pronunciation) Menu as the core of the SIPONO application. In this menu, students can learn how to pronounce Javanese vocabulary that they often listen to every day correctly based on phonological rules.

e. To test their skills and as a means of entertainment, students can access the *Gladhen* (Quiz) menu and answer each question displayed.

Implications of SIPONO Application in Language Learning

The SIPONO application has been piloted to teachers and students in several schools representing the provinces of East Java, Central Java, and the Special Region of Yogyakarta. The use of the SIPONO application is stated to have positive implications for teachers and students in learning. This is in accordance with the results of the application trial on 11 respondents consisting of 5 teachers and 6 students. Respondents were chosen based on criteria such as being Javanese language teachers and students in junior high school, facing challenges in Javanese vocabulary pronunciation, and owning smartphones.

According to the trial results, all respondents stated that the SIPONO application was new to them. Respondent MKR stated that he felt helped by the SIPONO application because it could distinguish Javanese phonemes in an attractive and simple application. The android-based format of the application also makes it easier for students to learn how to pronounce Javanese vocabulary without being limited to place and time. SIPONO application can be used as one of the distances learning media by teachers and students.

Compared to the conventional method used by teachers, which involves correcting students' pronunciation manually through oral examples that might be easily forgotten, the SIPONO application makes it easier for students to recall correct pronunciation if they forget. Additionally, compared to using an International Phonetic Alphabet (IPA) website that only provides tables of letter and sound symbols and audios, the SIPONO application offers pronunciation features in the form of words, including base words and derived words. Moreover, the application's completeness includes an explanation of vocabulary pronunciation errors in songs and quiz-based exercise features, adding value to the application. 100% of respondents also confirmed that SIPONO helps users pronounce Javanese vocabulary accurately. The comparison and percentage indicate that the SIPONO application excels and is a suitable technology-based learning medium for Javanese pronunciation.

The use of technology in learning can stimulate students' cognitive development (Goldschmidt, 2020). The development of phoneme pronunciation learning media can help students to pronounce Javanese vocabulary with proper and easy pronunciation. This needs to be pursued because pronunciation is the key in realizing effective communication for students (Cahyani & Panjaitan, 2020; Kayyis &

Tristiana, 2019; Wardani & Suwartono, 2019). The existence of this learning media also supports the content of lesson materials and is easy to obtain. This is because the content of learning media comes from the environment and everyday life, both in terms of teachers and students. In addition, the development of simple technology-based media allows teachers to be skilled in using them and has been adapted to the conditions of students (Ediyani et al., 2020). The presence of images, sounds, and colors also increases students' interest in learning (Sulistiyono et al., 2017). Thus, the development of learning media for the pronunciation of Javanese phonemes has also met the feasibility aspect of learning media.

The development and use of Javanese phoneme pronunciation learning media with research content is also supported by linguistic expert informants, Javanese teacher informants, and students. The Javanese teacher informants strongly support the development of this learning media application because with examples of incorrect pronunciations which are then corrected, of course it will greatly support Javanese language learning today. SIPONO application is very relevant to the needs of teachers and students in supporting the learning process both in the classroom and in distance learning.

Language expert informants also strongly support the development of this application as a very practical and interesting Java language learning media. Application development as a learning medium is really needed, especially in the current technological era because students cannot be separated from their devices (Kayyis & Tristiana, 2019). The existence of this application can provide understanding and make it easier for users, especially students to learn to pronounce Javanese vocabulary correctly. This is expected to reduce the phenomenon of phoneme pronunciation errors which are considered common in Javanese society.

One of the key elements of learning is the use of learning media (Ediyani et al., 2020). Students' interest and participation in Javanese language study are undoubtedly drawn to application-based learning media. Additionally, this software has a quiz feature that allows users to assess their understanding and aptitude for correctly pronouncing Javanese words. The SIPONO application can be regularly developed, adding vocabulary for students to learn in various forms and types. This enhances its functionality and durability for long-term use. Thus, the created application can help teachers and students more easily accomplish the mentioned speaking skills learning objectives. The presence of the SIPONO application is expected to inspire and provide a new approach to learning vocabulary pronunciation in local, national, and foreign languages easily, effectively, and modernly.

Conclusion

Mispronunciation of Javanese vocabulary is a common phenomenon in society, including students. Generally, Javanese speakers make mistakes in pronouncing vocabulary with certain phonemes that are typical of the Javanese language. In the field of education, this is influenced by the limitations of learning media. The SIPONO application was developed to be a solution to these problems. The SIPONO application was developed through the planning, design, production, and testing stages. This application has positive implications in language learning because it can help students learn to pronounce the correct Javanese vocabulary through the features provided. In addition, the android format that can be installed on students' smartphones is an advantage of the SIPONO application as

one of the Javanese language learning media that can be used in class or distance learning. Thus, the SIPONO application is a media development innovation that can support language learning more effectively and with quality in the technology era.

Acknowledgement

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