

A SUNDANESE EDUCATIONAL PODCAST AS AN ALTERNATIVE MEDIUM FOR LANGUAGE AND CULTURE LEARNING IN PRIMARY SCHOOL TEACHER EDUCATION

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Abstrak. The development of culturally responsive digital learning media is increasingly important in teacher education, particularly for preserving local languages and cultural values in higher education. Sundanese language and culture learning in Primary School Teacher Education programs still faces challenges related to students' limited understanding of cultural materials and the continued use of conventional learning media. This study aimed to develop and examine the feasibility of a Sundanese educational podcast as an alternative medium for learning Sundanese language and culture in the Primary School Teacher Education Program. This study employed a research and development design using the ADDIE model, which consists of analysis, design, development, implementation, and evaluation stages. The participants involved 25 PGSD students, material experts, and media experts. Data were collected through needs analysis questionnaires, expert validation sheets, student response questionnaires, limited interviews, and documentation. The data were analyzed using descriptive quantitative and qualitative techniques. The results showed that students had a strong need for audio-based digital learning media, with 85% indicating the need for digital audio media and 88% expressing interest in using podcasts for learning. The material expert validation obtained an average score of 92%, while the media expert validation reached 89%, both categorized as very feasible. The limited trial also showed a highly positive student response, with an average score of 90.25%. In addition, students' understanding increased by 16 points after using the podcast. These findings indicate that the Sundanese educational podcast is feasible, engaging, and relevant for supporting flexible and culturally grounded learning. The implication of this study is that podcast-based learning can serve as an innovative digital medium for strengthening local language learning, student engagement, independent learning, and cultural literacy among prospective primary school teachers.

Keywords: Sundanese educational podcast; digital learning media; local language learning; cultural literacy; Primary School Teacher Education; ADDIE model

I. INTRODUCTION

Background of the Study

The rapid transformation of higher education in the digital era has encouraged lecturers and teacher education institutions to develop learning media that are flexible, accessible, contextual, and compatible with students' digital learning habits. In teacher education, especially in Primary School Teacher Education programs, digital media are no longer positioned merely as supplementary tools, but as pedagogical instruments that support meaningful learning, independent learning, and cultural literacy development. Previous studies have emphasized that technology-based learning media can strengthen student engagement, expand learning access, and support more adaptive learning experiences in both synchronous and asynchronous environments [1], [2]. In this context, podcasts have emerged as an alternative digital audio medium that can facilitate learning through narration, storytelling, repetition, and flexible access.

Podcast-based learning is increasingly relevant in higher education because it allows students to access learning materials anytime and anywhere, revisit difficult concepts, and engage with content through auditory learning channels. Andersen and Dau [3] explain that podcasts in higher education provide flexibility and

opportunities for students to reflect on course content, although the pedagogical design of podcasts still requires careful development. Recent studies on podcast-based learning also indicate that audio-based media can enhance engagement, comprehension, and learning motivation when the content is structured, concise, and aligned with course objectives [4], [5]. Therefore, educational podcasts can be considered a promising medium for courses that require listening skills, cultural understanding, language exposure, and contextual interpretation.

In the Indonesian educational context, the preservation and revitalization of local languages remain an important issue, particularly amid the dominance of national and global languages in students' daily communication. Sundanese language and culture, as part of Indonesia's local wisdom, must be continuously introduced and strengthened through formal education, including in university-level teacher education programs. Sundanese language learning is not limited to linguistic competence, but also involves cultural values, politeness systems, oral traditions, local identity, and intercultural awareness. Previous studies have shown that Sundanese language and culture learning can be strengthened through digital media, local-wisdom-based learning models, and technology-supported listening activities [1], [6], [7]. Such findings indicate that the integration of digital learning media and local cultural content is a strategic approach to maintaining students' cultural literacy.

The relevance of digital media for Sundanese language and culture learning is also supported by the findings of Suchyadi et al. [1], who examined YouTube-based fairy tale listening in Sundanese language and culture learning. Their study demonstrated that digital storytelling media could improve students' listening ability and support the transmission of Sundanese oral traditions. Similarly, Sudarjat et al. [2] emphasized that technological literacy is essential for teachers and prospective teachers because digital competence enables educators to select, design, and implement appropriate multimedia resources in learning. These studies provide a strong foundation for developing more specific and contextual digital media, such as educational podcasts in Sundanese, for Primary School Teacher Education students.

The present study focuses on the development of a Sundanese educational podcast as an alternative medium for learning Sundanese language and culture in the Primary School Teacher Education Program. The product was designed to address students' need for more innovative, accessible, and culturally relevant learning media. Based on the preliminary needs analysis, many students experienced difficulties in understanding Sundanese cultural materials, while learning media were still perceived as conventional. At the same time, students showed strong interest in using audio-based digital media, particularly podcasts, as a learning resource. This condition demonstrates the urgency of developing digital audio media that can bridge cultural content, language learning, and students' contemporary learning preferences.

Problem of the Study

Although Sundanese language and culture learning has been implemented in Primary School Teacher Education programs, several instructional challenges remain unresolved. First, students often face difficulties in understanding cultural concepts, local vocabulary, speech levels, and oral traditions because these materials are closely related to social context, pronunciation, and cultural meaning. Conventional teaching media, such as printed materials and lecturer-centered explanations, are not always sufficient to help students internalize these elements. In language and culture learning, students require repeated exposure, clear articulation, contextual examples, and authentic narration to develop deeper comprehension [6], [8].

Second, the use of digital audio media in Sundanese language and culture learning remains limited. While video-based and multimedia learning have received growing attention, podcast-based learning for local language and culture courses is still underdeveloped. Studies on digital Sundanese learning have generally focused on YouTube, multimedia platforms, and local-wisdom-based learning models [1], [6], [7]. Meanwhile, podcast-based learning offers specific advantages, such as portability, low bandwidth requirements, ease of repetition, and compatibility with students' independent learning patterns [3], [4]. This indicates a need to explore podcasts not merely as entertainment media, but as structured instructional products that are validated and tested in authentic learning contexts.

Third, prospective primary school teachers need learning experiences that strengthen both pedagogical competence and cultural literacy. As future teachers, PGSD students are expected to understand local language and

culture so that they can later integrate local wisdom into elementary school learning. However, if learning media are not engaging and contextual, students may perceive local language courses as less relevant to contemporary education. Therefore, a more innovative learning medium is needed to make Sundanese language and culture learning more attractive, meaningful, and pedagogically applicable.

Fourth, the development of digital learning media must be supported by systematic instructional design and empirical validation. A podcast cannot be considered educationally effective only because it is digital or attractive. It must be designed based on learning needs, curriculum relevance, linguistic accuracy, media quality, student characteristics, and expert validation. The ADDIE development model is widely used in instructional product development because it provides systematic stages from analysis, design, development, implementation, to evaluation [9], [10]. Therefore, the present study applies the ADDIE model to ensure that the Sundanese educational podcast is developed through a rigorous and pedagogically accountable process.

Research's State of the Art

The state of the art in digital learning media shows that technology integration in education has shifted from simple media use toward systematic, student-centered, and context-sensitive instructional design. Multimedia learning theory emphasizes that learning becomes more effective when verbal and auditory information are organized in ways that support cognitive processing [11]. In this regard, podcast-based learning can be aligned with multimedia learning principles because it relies on narration, sequencing, verbal explanation, and auditory engagement. When designed properly, audio narration can reduce unnecessary visual load and help students focus on linguistic and cultural meaning.

Recent research on podcast-based learning in higher education has shown positive trends. Andersen and Dau [3] reviewed the use of podcasts as learning media in higher education and found that podcasts can support flexible, reflective, and engaging learning environments. Their review also highlighted that empirical research on podcast pedagogy remains limited and that further studies are needed to examine different instructional designs and learning outcomes. Engzell [4] similarly argued that podcasts can function as a learning method when integrated into a clear pedagogical framework rather than used as passive supplementary content. These findings suggest that podcast-based learning should be developed through structured design, content alignment, and evaluation.

In language learning, podcasts have been associated with listening practice, pronunciation exposure, vocabulary development, and learner autonomy. Setiawan and Haryanto [5] reported that interactive podcast development can support local language learning because students receive repeated exposure to pronunciation and contextual language use. Putra and Rusmawan [6] also emphasized that podcasts can be used as digital learning media for Sundanese language learning in the digital era. These studies indicate that audio-based media have considerable potential for local language education, particularly when the content is adapted to learners' linguistic needs and cultural contexts.

In Sundanese language and culture learning, previous studies have emphasized the importance of digital media and local wisdom. Suchyadi et al. [1] investigated YouTube-based fairy tale listening and showed that digital storytelling can improve students' ability to understand Sundanese fairy tales. This study is important because it connects Sundanese oral tradition, listening competence, and digital learning media. Nugraha and Suryani [7] also highlighted the role of digital media in revitalizing Sundanese language, while Kusumah and Wulandari [8] emphasized the importance of local-wisdom-based learning models in strengthening student character. These studies demonstrate that digital media can be used not only to improve learning outcomes but also to preserve local cultural values.

Teacher digital literacy has also become a central issue in the development of learning media. Sudarjat et al. [2] argued that technological literacy enables teachers to select and develop multimedia resources that make learning more interesting, interactive, and flexible. Their study is relevant to the present research because PGSD students are future teachers who must be prepared to design and use culturally relevant digital learning media. Furthermore, digital literacy is closely related to teachers' ability to integrate pedagogical goals, technological affordances, and local content into meaningful learning experiences [2], [12].

Based on these studies, the current research is positioned at the intersection of educational podcast development, Sundanese language and culture learning, local wisdom preservation, and teacher education. Unlike previous studies that focused mainly on video-based media, general digital learning, or local wisdom learning models, this study specifically develops and validates a Sundanese educational podcast as an alternative medium for PGSD students. The product is designed through the ADDIE model and includes three learning episodes: *Undak Usuk Basa*, *Waditra Urang Sunda*, and *Kosa Kecap*. Thus, the study contributes to the development of audio-based cultural learning media in higher education and provides a practical model for integrating local language learning with digital pedagogy.

Gap Study and Objective

Although previous studies have discussed digital learning media, podcast-based learning, and Sundanese language learning, several research gaps remain. First, most studies on digital media in Sundanese language and culture learning have focused on visual or video-based platforms, especially YouTube, while podcast-based instructional products remain underexplored [1], [6]. Second, previous podcast studies in higher education have generally examined students' perceptions or broad pedagogical benefits, but fewer studies have developed and validated podcasts specifically for local language and culture learning using a systematic instructional design model [3], [4]. Third, there is still limited empirical evidence on the feasibility and student response to Sundanese educational podcasts designed for PGSD students as prospective primary school teachers.

Another gap lies in the integration of cultural content and digital pedagogy. Local language learning requires not only technological innovation but also linguistic accuracy, cultural appropriateness, and pedagogical relevance. Therefore, a learning podcast must be validated by material and media experts to ensure that the content, language, narration, audio quality, and learning objectives meet instructional standards. The present study addresses this gap by developing a Sundanese educational podcast through the ADDIE model and evaluating its feasibility through expert validation and limited student trials.

Accordingly, the objective of this study is to develop and examine the feasibility of a Sundanese educational podcast as an alternative learning medium for Sundanese language and culture courses in the Primary School Teacher Education Program. Specifically, this study aims to: (1) analyze students' needs for digital audio-based learning media in Sundanese language and culture learning; (2) design and develop a Sundanese educational podcast based on relevant cultural and linguistic materials; (3) validate the podcast through material and media expert assessment; and (4) examine students' responses to the podcast as an alternative learning medium. The expected contribution of this study is both theoretical and practical: theoretically, it enriches the literature on podcast-based local language learning; practically, it provides a validated digital audio product that can support flexible, engaging, and culturally grounded learning for prospective primary school teachers.

II. METHOD

Type and Design

This study employed a research and development approach aimed at producing and validating a Sundanese educational podcast as an alternative learning medium for Sundanese language and culture courses in the Primary School Teacher Education Program. The development procedure was guided by the ADDIE model, which consists of five systematic stages: analysis, design, development, implementation, and evaluation. The ADDIE model was selected because it provides a structured framework for identifying learning needs, designing instructional products, developing media prototypes, implementing the product in a limited learning context, and evaluating its feasibility and user response. Recent studies have emphasized that ADDIE remains relevant for digital learning media development because it allows instructional designers to align learning objectives, student characteristics, media features, and evaluation procedures in a coherent development cycle [16], [17]. In this study, the model was applied to ensure that the podcast was not merely produced as an audio product, but developed as a pedagogically accountable medium based on students' needs, expert validation, and empirical user feedback.

The analysis stage focused on identifying students' learning problems and media needs in Sundanese language and culture learning. The design stage involved preparing the podcast concept, episode structure, learning objectives, material scope, narration script, and audio format. The development stage produced three podcast episodes containing materials on *Undak Usuk Basa*, *Waditra Urang Sunda*, and *Kosa Kecap*. The implementation stage was conducted through a limited trial involving PGSD students as target users. The evaluation stage included expert validation, student response analysis, and product revision. Through these stages, the study sought to ensure that the final podcast product was feasible, contextually relevant, and appropriate for use in higher education learning.

Data and Data Sources

The data in this study consisted of qualitative and quantitative data obtained during the development and evaluation process. Quantitative data were collected from students' needs analysis questionnaires, expert validation sheets, and student response questionnaires. These data were used to determine the level of need, feasibility, and student acceptance of the developed podcast. Qualitative data were obtained from limited interviews, open-ended questionnaire responses, expert suggestions, and revision notes during the development process. These qualitative data were used to interpret the strengths and weaknesses of the podcast and to guide product improvement.

The primary data sources were PGSD students who participated in the needs analysis and limited trial, as well as material and media experts who assessed the feasibility of the podcast. The needs analysis involved 25 PGSD students who provided information regarding their difficulties in learning Sundanese language and culture, their perception of existing learning media, and their interest in using audio-based digital learning media. Expert validators consisted of a material expert who assessed curriculum relevance, linguistic accuracy, cultural appropriateness, and depth of content, and a media expert who assessed audio quality, narration clarity, attractiveness, and technical presentation. The involvement of these data sources was intended to ensure that the developed podcast was evaluated from both pedagogical and technical perspectives.

Data Collection Technique

Data were collected through questionnaires, limited interviews, expert validation sheets, documentation, and product trials. The needs analysis questionnaire was distributed to students to identify learning difficulties, media preferences, and expectations toward podcast-based learning. Limited interviews were conducted to obtain deeper information regarding students' experiences in learning Sundanese language and culture and their perceptions of conventional learning media. The results of this stage became the basis for designing podcast content, duration, narration style, and learning themes.

Expert validation sheets were used to assess the feasibility of the podcast before implementation. The material validation instrument covered aspects of curriculum alignment, accuracy of Sundanese language use, cultural relevance, clarity of examples, and depth of material. The media validation instrument covered aspects of audio quality, narration clarity, duration, format attractiveness, and technical presentation. After expert validation, the podcast was revised based on the validators' suggestions. A limited trial was then conducted with PGSD students to obtain user responses. The student response questionnaire measured attractiveness, ease of understanding, contribution to cultural comprehension, learning flexibility, motivation, and feasibility for use in lectures. Documentation was also used to record the development process, podcast scripts, audio files, validation results, and trial activities.

Data Analysis

The data were analyzed using descriptive quantitative and qualitative analysis. Quantitative data from the needs analysis, expert validation, and student response questionnaires were converted into percentages and interpreted using feasibility criteria. The percentage score was calculated by comparing the obtained score with the maximum possible score and multiplying the result by 100. The interpretation of the percentage was used to determine whether the product was categorized as very feasible, feasible, less feasible, or not feasible. In this study, the material expert validation reached 92%, while the media expert validation reached 89%, indicating that the

podcast was categorized as very feasible. Student responses also showed a highly positive result, with an average positive response of 90.25%, indicating that the podcast was attractive, understandable, and appropriate for use in Sundanese language and culture learning.

Qualitative data were analyzed through data reduction, data display, and conclusion drawing. Suggestions from validators and students were reviewed to identify aspects requiring revision, such as simplification of certain cultural terms, improvement of narration articulation, adjustment of opening duration, and addition of traditional sound effects. These qualitative findings were used to refine the final podcast product. The integration of quantitative and qualitative analysis enabled the researchers to evaluate not only the numerical feasibility of the podcast, but also the contextual and pedagogical quality of the product. Therefore, the data analysis process provided a comprehensive basis for determining that the Sundanese educational podcast was suitable as an alternative learning medium for PGSD students.

III. RESULTS

The development of the Sundanese educational podcast was carried out through the ADDIE model, consisting of analysis, design, development, implementation, and evaluation. The results indicate that the developed podcast is feasible and relevant as an alternative medium for learning Sundanese language and culture in the Primary School Teacher Education Program. The product consisted of three podcast episodes: *Undak Usuk Basa*, *Waditra Urang Sunda*, and *Kosa Kecap*. Each episode was designed with a duration of approximately 8–12 minutes, using structured narration, contextual examples, and traditional sound elements to strengthen students' linguistic and cultural engagement.

The needs analysis showed that students required more innovative and flexible media for learning Sundanese language and culture. Based on the questionnaire distributed to 25 PGSD students, 72% of students experienced difficulties in understanding Sundanese cultural materials, 81% perceived that the existing learning media were still conventional, 85% needed audio-based digital media, and 88% expressed interest in using podcasts as learning media. These findings indicate that students were receptive to digital audio learning and that the development of a Sundanese educational podcast was contextually relevant to their learning needs.

Table 1. Results of Student Needs Analysis

No.	Aspect Analyzed	Percentage
1	Difficulty in understanding Sundanese cultural materials	72%
2	Existing learning media are still conventional	81%
3	Need for audio-based digital learning media	85%
4	Interest in using podcasts as learning media	88%

The expert validation results also demonstrated that the podcast met the criteria for instructional feasibility. The material expert validation reached an average score of 92%, categorized as very feasible. The highest score was obtained in curriculum relevance, indicating that the podcast content was aligned with the learning objectives and course materials. The validation also confirmed that the language accuracy, cultural relevance, and depth of material were appropriate for Sundanese language and culture learning.

Table 2. Material Expert Validation Results

Aspect	Score	Category
Curriculum relevance	94%	Very feasible
Language accuracy	90%	Very feasible
Depth of material	92%	Very feasible
Average	92%	Very feasible

The media expert validation obtained an average score of 89%, also categorized as very feasible. The assessment covered audio quality, format attractiveness, and narration clarity. The result shows that the podcast had adequate technical quality for instructional use. The narration was considered clear, the format was attractive, and the audio quality supported students' listening experience.

Table 3. Media Expert Validation Results

Aspect	Score	Category
Audio quality	88%	Very feasible
Format attractiveness	90%	Very feasible
Narration clarity	89%	Very feasible
Average	89%	Very feasible

The implementation stage was conducted through a limited trial involving 25 PGSD students. The student response results showed that 90% of students considered the podcast interesting, 87% stated that it was easy to understand, 91% reported that it helped them understand Sundanese culture, and 93% stated that the podcast was feasible for use in lectures. The average positive response was 90.25%, categorized as very good. These results indicate that the podcast was not only technically feasible, but also positively accepted by students as a learning medium.

Table 4. Student Responses to the Sundanese Educational Podcast

Aspect	Positive Response
Interesting	90%
Easy to understand	87%
Helps understand Sundanese culture	91%
Feasible for use in lectures	93%
Average positive response	90.25%

The evaluation stage resulted in several revisions, including the simplification of certain cultural terms, improvement of narration articulation, adjustment of the opening duration, and addition of traditional sound effects. These revisions were made to improve the clarity, attractiveness, and cultural atmosphere of the podcast. Overall, the findings show that the Sundanese educational podcast is highly feasible and has strong potential to be implemented as an alternative medium in Sundanese language and culture learning.

Discussions

The findings of this study confirm that podcast-based learning can be developed as a relevant medium for local language and culture education. The high percentage of student interest in using podcasts indicates that PGSD students are familiar with flexible digital learning formats and are willing to engage with audio-based media. This finding is consistent with recent studies showing that podcasts can support student engagement, perceived usefulness, and learning motivation in higher education when they are designed with clear instructional purposes [18]. The positive response obtained in this study also supports previous findings that podcast-based learning can improve students' language learning experiences, particularly in listening and speaking contexts [19].

The material validation score of 92% indicates that the content of the podcast was pedagogically and culturally appropriate. This result is important because local language learning requires accuracy in vocabulary, cultural meaning, and contextual usage. In Sundanese language and culture learning, the use of *undak usuk basa*, cultural instruments, and local vocabulary must be presented carefully so that students do not merely memorize terms, but

understand their social and cultural functions. The inclusion of contextual narration and traditional sound effects strengthens the cultural dimension of the learning experience.

The media validation score of 89% indicates that the podcast had acceptable technical quality as a learning medium. Audio clarity, narration quality, and format attractiveness are essential in podcast-based learning because students rely primarily on auditory input. Poor audio quality or unclear narration may reduce comprehension and engagement. Therefore, the revision process involving articulation improvement, opening duration adjustment, and sound effect refinement was an important step in ensuring the instructional quality of the product.

The average student response of 90.25% demonstrates that the podcast was well received by students. The highest response was found in the feasibility aspect, where 93% of students stated that the podcast was suitable for use in lectures. This finding suggests that students considered the podcast not only attractive, but also relevant for academic learning. The result also indicates that podcast-based learning may support independent learning because students can access and repeat the material outside the classroom. Recent research on personalized educational podcasts has also shown that podcast formats can increase enjoyment and relevance when learning content is adapted to learner characteristics and learning needs [20].

Novelty and contribution

The novelty of this study lies in the development of a Sundanese educational podcast specifically designed for PGSD students as prospective primary school teachers. Unlike previous digital learning studies that primarily focused on video-based media, general multimedia, or non-local language contexts, this study positions the podcast as an audio-based cultural learning medium. The product does not merely deliver information, but integrates linguistic content, local cultural values, traditional sound elements, and flexible digital access into one instructional medium.

The first contribution of this study is the development of a validated digital audio product for Sundanese language and culture learning. The podcast provides an alternative to conventional learning media and offers a learning format that is more aligned with students' digital habits. The second contribution is methodological, as the study applies the ADDIE model to develop, validate, implement, and revise the podcast systematically. This contributes to instructional media development literature by showing how local language learning media can be designed through a structured research and development process.

The third contribution is cultural and pedagogical. The study supports the preservation of Sundanese language and culture through digital learning innovation. This is relevant to current discussions on culturally responsive digital pedagogy, which emphasize the importance of integrating local culture, learner identity, and technology-enhanced learning into educational practice [21]. By presenting Sundanese linguistic and cultural content in podcast form, this study contributes to the revitalization of local language learning in higher education.

The fourth contribution is related to teacher education. PGSD students are future primary school teachers who are expected to integrate local wisdom into elementary education. Through this podcast-based learning experience, students are introduced not only to Sundanese language and culture, but also to an example of how digital media can be used pedagogically. Therefore, the product has potential value as both a learning medium and a model for future teachers to develop similar culturally grounded instructional media.

Limitation and future study

This study has several limitations that should be acknowledged. First, the implementation of the Sundanese educational podcast was conducted through a limited trial involving 25 PGSD students. Although the results showed highly positive responses and strong feasibility scores, the relatively small number of participants limits the generalizability of the findings to broader student populations. Therefore, the results should be interpreted as preliminary evidence of product feasibility rather than as conclusive evidence of large-scale effectiveness.

Second, this study focused primarily on product development, expert validation, and student responses. The evaluation emphasized feasibility, attractiveness, ease of understanding, and perceived usefulness. However, the study has not yet fully measured the long-term impact of podcast-based learning on students' learning outcomes, such as listening comprehension, vocabulary mastery, cultural literacy, retention, and motivation over time. The reported increase in understanding provides an initial indication of learning improvement, but further experimental

testing is still required to determine the actual effectiveness of the podcast compared with conventional learning media.

Third, the developed podcast consisted of only three episodes, namely *Undak Usuk Basa*, *Waditra Urang Sunda*, and *Kosa Kecap*. These topics represent important aspects of Sundanese language and culture, but they do not yet cover the full scope of Sundanese learning materials in the PGSD curriculum. As a result, the product should be viewed as an initial prototype that requires further expansion in terms of themes, levels of difficulty, learning objectives, and integration with course activities.

Fourth, the study relied on expert validation and student response questionnaires as the main instruments for evaluating the podcast. While these instruments are useful for assessing feasibility and user acceptance, they may not fully capture deeper learning processes, student interaction, or actual classroom implementation dynamics. Additional qualitative methods, such as classroom observation, reflective journals, focus group discussions, and lecturer interviews, would provide richer insight into how students engage with podcast-based learning in authentic instructional settings.

Future studies should involve a larger and more diverse sample of students from different PGSD programs or universities to strengthen the external validity of the findings. Further research may also apply experimental or quasi-experimental designs to compare podcast-based learning with conventional learning media or other digital media formats. Such designs would make it possible to measure the effectiveness of Sundanese educational podcasts on specific learning outcomes, including listening skills, vocabulary acquisition, cultural understanding, and student learning motivation.

Future research should also expand the number and variety of podcast episodes. Additional episodes may cover Sundanese oral traditions, traditional ceremonies, local folklore, proverbs, children's songs, cultural values, and classroom-based examples for elementary school teaching. The podcast may also be developed into an interactive learning package by integrating worksheets, reflective questions, short quizzes, discussion forums, or Learning Management System activities. This would allow the podcast to function not only as an audio learning resource, but also as part of a more comprehensive blended learning model.

Furthermore, future studies may explore the integration of artificial intelligence and local-language technology in podcast development. AI-supported transcription, automatic captioning, pronunciation feedback, and adaptive learning analytics may enrich podcast-based learning, particularly for students who require repeated exposure to pronunciation and vocabulary. However, the use of such technology must be carefully supervised by Sundanese language and culture experts to maintain linguistic accuracy, cultural authenticity, and ethical use of digital learning resources.

Finally, future research should examine how podcast development can be integrated into teacher education coursework. Since PGSD students are prospective elementary school teachers, they should not only use digital learning media, but also learn how to design culturally relevant media for their future classrooms. Therefore, podcast production can be developed as a project-based learning activity that strengthens students' digital literacy, pedagogical creativity, cultural awareness, and ability to preserve local wisdom through educational innovation.

Future research should also explore the role of artificial intelligence and local-language technologies in developing culturally responsive learning media. Current studies on Indonesian language technologies indicate that indigenous and local languages still face challenges in digital representation, cultural accuracy, and low-resource language processing [22], [23]. Therefore, the development of Sundanese educational podcasts may be expanded through AI-supported transcription, pronunciation feedback, automatic captioning, and local-language learning analytics. However, such innovation must be implemented carefully to preserve cultural authenticity and linguistic accuracy. Finally, future studies should investigate how podcast-based local language learning can be integrated into elementary school teacher preparation. Since PGSD students are prospective teachers, podcast development projects can be used as part of coursework, microteaching, or digital pedagogy training. This would allow students not only to consume digital learning media, but also to become creators of culturally relevant instructional content. In this way, podcast-based learning can contribute to the broader agenda of local culture preservation, digital literacy development, and teacher professional preparation.

Implication and suggestions

The findings of this study have several implications. First, the use of podcasts in Sundanese language and culture learning can support flexible and independent learning. Students can listen to the podcast repeatedly, access it outside classroom hours, and use it as a supplementary learning resource. This flexibility is particularly important in higher education, where students are expected to develop autonomous learning habits.

Second, the study implies that local language learning should not be limited to printed texts or conventional classroom explanation. Sundanese language and culture contain oral, social, and contextual dimensions that can be effectively supported through audio narration. Podcasts provide opportunities for students to hear pronunciation, intonation, cultural expressions, and contextual examples in a more natural format. This supports the development of listening comprehension and cultural understanding.

Third, lecturers should design podcast content carefully by considering duration, narration style, cultural accuracy, and audio quality. The results of this study show that even a feasible product still requires revision based on expert and student feedback. Therefore, lecturers and instructional designers are advised to conduct needs analysis, expert validation, and user testing before implementing podcast-based media widely.

Fourth, universities should support the integration of local-content digital media into Learning Management Systems. The podcast developed in this study can be uploaded to institutional LMS platforms so that students can access the material more systematically. Such integration can strengthen blended learning practices and support documentation for academic quality assurance.

Several practical suggestions can be proposed. Lecturers should develop podcast episodes with short duration, clear learning objectives, contextual examples, and culturally appropriate narration. Students should be encouraged to use podcasts not only as listening materials, but also as discussion triggers, reflective learning resources, and project-based learning references. Institutions should provide technical support for podcast production, including recording facilities, editing assistance, and digital repository access. In addition, collaboration with local language experts, cultural practitioners, and instructional media specialists is recommended to ensure the quality and authenticity of the content.

IV. CONCLUSION

This study concludes that the Sundanese educational podcast developed for Sundanese language and culture learning in the Primary School Teacher Education Program is feasible, relevant, and positively received by students. The development process using the ADDIE model enabled the researchers to design the podcast systematically, beginning with needs analysis, product design, media development, expert validation, limited implementation, and evaluation. The needs analysis showed that students required more innovative and flexible learning media, particularly audio-based digital media that could support their understanding of Sundanese language and culture. The expert validation results demonstrated that the podcast met the criteria for instructional feasibility. The material validation showed that the podcast content was aligned with the curriculum, linguistically accurate, culturally relevant, and sufficiently developed for learning purposes. The media validation also indicated that the podcast had good audio quality, clear narration, and an attractive format. These findings confirm that the product was not only technically appropriate, but also pedagogically meaningful for supporting local language and culture learning. The limited trial with PGSD students showed highly positive responses. Students perceived the podcast as interesting, easy to understand, helpful for learning Sundanese culture, and feasible for use in lectures. The podcast also provided students with a more flexible learning experience because it could be accessed repeatedly and independently outside classroom hours. This indicates that podcast-based learning can function as an alternative medium that supports student engagement, autonomous learning, and cultural literacy. Overall, the Sundanese educational podcast contributes to the development of digital learning media that integrate local language, cultural values, and technology-based pedagogy. The study provides an initial model for lecturers and teacher education institutions to develop culturally responsive digital media for local language learning. Although the implementation was still limited in scale, the results indicate that the podcast has strong potential to be expanded, integrated into Learning Management Systems, and further tested in broader learning contexts. Therefore, the developed podcast

can be considered a promising innovation for strengthening Sundanese language and culture learning among prospective primary school teachers.

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