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The Development Of Interactive Podcast Media Based On On-Demand Communication To Improve Listening Skills Of Elementary School Students

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Abstract

This research is motivated by the low listening skills of elementary school students, which are still oriented towards one-way learning and the lack of variety in interactive digital learning media. The purpose of this study is to produce an interactive podcast media product based on on-demand communication using the ADDIE development model and the P-L.E.A.R.N model to improve the listening skills of fourth-grade elementary school students. The research approach used is a mixed method with a Research and Development (R&D) design. The research instruments include material experts, media experts, language experts, one-to-one trials, small group trials, and field tests. Data collection techniques used listening skill tests, observation sheets, expert validation questionnaires, and interviews. The results showed that the interactive podcast media based on on-demand communication is very feasible to use and effective in improving students' listening skills with a high N-Gain improvement category. The implication of this research provides an innovative alternative for Indonesian language learning in elementary schools that is in line with the principles of the Merdeka Curriculum and 21st-century skills.

Keywords: Interactive Podcast, On-Demand Communication, Listening Skills, ADDIE Model, P-L.E.A.R.N.

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INTRODUCTION

Digital transformation in the world of education requires educators to continuously innovate in creating learning media that are not only visually and audibly attractive, but also easily accessible anytime (on demand) and aligned with the learning characteristics of today's students who are fast-paced and practical (Tanjung et al., 2024). The use of technology and digital media has been proven to increase students' motivation, involvement, and understanding of learning materials (Mondragon-Estrada et al., 2023; Busrah et al., 2025). Amidst these various innovations, one essential language skill that is often neglected in daily learning practices in elementary schools is listening skills (Adfar et al., 2024).

Listening skills play a fundamental role as the main foundation for the development of other language skills, namely speaking, reading, and writing (Nursalim et al., 2024). Through the listening process, students can absorb information, understand oral messages critically, follow learning instructions, and interpret meanings contextually (Muammar et al., 2018; Yin, 2022). In the Merdeka Curriculum, listening skills are placed as part of strengthening basic literacy which emphasizes the ability to understand oral information to support communication, collaboration, and critical thinking (Kurikulum Merdeka, 2024; Amri et al., 2024). However, empirical conditions in the field show that the listening skills of elementary school students are still in the low category (low stage). Conventional learning dominated by one-way lecture methods makes students act as passive listeners, quickly lose focus, and experience difficulties in grasping important information and the storyline as a whole (Fadhilah & Ritonga, 2022).

As a solution to these problems, the use of digital audio media in the form of podcasts offers great potential. Podcasts are digital audio recordings that can be flexibly downloaded or accessed via the internet (Hew, 2009; Akhyar et al., 2022). Nevertheless, most of the existing educational podcasts today are still passive in nature, where students only listen without any room for direct interaction, feedback, or reflective questions that stimulate higher-order cognitive processes (Putri & Devianty, 2024). Therefore, an innovation in the form of developing Interactive Podcast Media Based on On-Demand Communication is needed. The concept of on-demand communication provides freedom and full autonomy for students to access learning materials according to their respective needs, time, and pace of learning (self-paced learning) (Baser et al., 2023). This study aims to design, develop, implement, and test the effectiveness of interactive podcast media based on on-demand communication using the ADDIE development model and the P-L.E.A.R.N learning syntax to improve the listening skills of elementary school students.

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RESEARCH METHODOLOGY

This study uses a mixed method approach with a development model or Research and Development (R&D) which refers to the ADDIE paradigm by Robert Maribe Branch (2009). The ADDIE model consists of five main stages, namely: (1) Analysis, (2) Design, (3) Development, (4) Implementation, and (5) Evaluation.

A qualitative approach was used in the initial stage to analyze the needs of teachers and students and describe the expert validation process. A quantitative approach was used to analyze data from the product validation results from experts (material, media, and language), user responses through one-to-one trials, small group trials, and field tests, and the measurement of listening skills improvement through pre-test and post-test instruments.

This research was conducted in class IV of SDN Sunter Jaya 07 North Jakarta in the even semester of the 2025/2026 academic year. The trial subjects included 2 material experts, 2 media experts, 2 language experts, 3 students for the one-to-one trial, 8 students for the small group trial, and all fourth-grade students in the field test. The product development framework combines the P-L.E.A.R.N (Prepare, Listen, Engage, Apply, Reflect, Nurture) model which is integrated into the interactive podcast program structure (Table 1).

Table 1. Integration of the P-L.E.A.R.N Model with the Interactive Podcast Structure and Listening Indicators

P-L.E.A.R.N Stage	Podcast Program Structure	On-Demand Communication Syntax	Listening Skill Indicators
Prepare	Opening (intro, greetings, prompts)	Teacher introduces the topic and objectives, activating prior knowledge	Listening to understand the purpose and context of the message
Listen	Delivery of the main material story/narration	Students listen to narratives, concrete examples, and audio explanations	Capturing the main message content and detailed information
Engage	Interactive segments (reflective questions, quick quizzes)	Students respond via notes, voice notes, or oral responses	Listening to respond and reply to messages

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P-L.E.A.R.N Stage	Podcast Program Structure	On-Demand Communication Syntax	Listening Skill Indicators
Apply	Short tasks or practical reflection	Students relate the podcast content to daily experiences	Assessing the meaning of the message and applying it contextually
Reflect	Reflective closing segment	Teacher provides feedback, reinforcement, or final questions	Listening to evaluate and internalize meaning
Nurture	Follow-up episodes / online discussion forums	Teacher follows up on student feedback in subsequent episodes	Listening continuously and critically

RESEARCH RESULTS

Needs Analysis Results (Analysis)

Based on the results of preliminary observations and preliminary tests of listening skills on 32 fourth-grade students of SDN Sunter Jaya 07, data was obtained that as many as 63% of students were in the low category (obtaining scores below 40% on the fairy tale comprehension test). Students experienced difficulty in identifying the main characters, sequencing events, understanding the storyline, and concluding the moral message. The results of interviews with the class teacher indicated that listening learning so far has been conventional, relying on the reading of texts by the teacher without the support of interactive audio media, so students quickly get bored and passive. These findings confirm the urgency of developing interactive podcast media based on on-demand communication.

Product Design and Development and Expert Validation Results

The design stage produced an interactive podcast media design that contains the podcast storyline script, interactive instruments, and questions to be answered by students. The product was validated by six main validator experts, which include learning material experts, learning media experts, and Indonesian language experts. The recapitulation of the results of the product feasibility assessment by the experts is presented in Table 2.

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Table 2. Recapitulation of Interactive Podcast Media Expert Validation Results

Validator Aspect	Score Percentage	Feasibility Category
Material Expert	90%	Very Feasible
Media Expert	88%	Very Feasible
Language Expert	95%	Very Feasible
Overall Average	91%	Very Feasible

The data analysis techniques used by the researchers in this study were descriptive and quantitative analysis. Descriptive analysis is a data analysis technique through the description of collected data without intending to provide general conclusions. Through this technique, data was obtained from questionnaires given to students as respondents and to several experts as validators. The observations of students' listening skills, teacher observations and the learning process, as well as student observations in the learning process will be analyzed using the following formula.

Table 3. Expert Feasibility Criteria

Percentage	Criteria
81% - 100%	Very Feasible
61% - 80%	Feasible
41% - 60%	Quite Feasible
21% - 40%	Less Feasible
0% - 20%	Very Less Feasible

Based on Table 3, the overall average validation result obtained was 91% with the "Very Feasible" criteria. This figure indicates that the interactive podcast media based on on-demand communication has met the standards of material substance, podcast design, and linguistic rules that are in accordance with the characteristics of the fourth-grade elementary school students.

Validator Suggestions and Feedback

In addition to providing quantitative assessment scores, the validators also provided notes, qualitative feedback, and constructive suggestions to improve the product before being tested in the field. The following is a summary of suggestions and feedback from each validator:

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1. **Suggestions from the Material Expert:**
    a. The material validator suggested inserting instructions before the listening activity begins.
    b. In addition, there was a suggestion requesting that the learning outcomes be explained in the podcast after the listening activity.
    c. The second material validator suggested accommodating students' learning styles, namely kinesthetic, auditory, and visual, because not all students have auditory intelligence. (Kinesthetic, Visual)



Figure 1. Kinesthetic



Figure 2. Visual

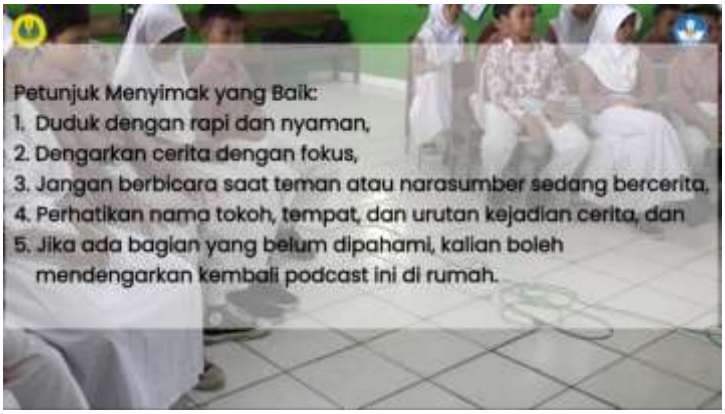
2. **Suggestions from the Language Expert:**
    a. The language validator emphasized the importance of good Indonesian word equivalents so that students are more familiar with words in Indonesian, the addition of sentences so that the podcast script text flows better, and consistent use of the words fairy tale or story in the podcast script text.
    b. The second language validator requested that the EYD (Enhanced Spelling System) and diction be paid attention to so that they are easily understood by students, as well as the sequence of the material or content.
3. **Suggestions from the Media Expert:**
    a. The media validator provided feedback to improve the sound quality and include audio during recording.

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b. The second media validator suggested including good listening instructions so that they can be read by students when replaying the podcast at home or in class.



All suggestions and feedback from the validators have been followed up through product revisions before the media was tested on individuals, small groups, and field tests.

Implementation and Evaluation

The product trial was conducted in stages starting from a one-to-one trial to 3 students, a small group trial to 8 students, up to a field test to all fourth-grade students totaling 32 students. Based on the user response analysis, the average level of practicality and attractiveness of the media reached 91.5%, which indicates that students were very enthusiastic and helped by the on-demand audio feature that can be repeated according to their pace of understanding.

To test the effectiveness of the media in improving listening skills, measurements were made using a pre-test and post-test. The results of the statistical analysis showed a significant increase in the students' listening skill scores. The calculation of the average N-Gain score ()

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obtained was 0.76, which falls into the high category (≥ 0.7). This proves that the use of interactive podcast media based on on-demand communication is effective in improving the listening skills of elementary school students.

Table 4. Results of Listening Skills Improvement Based on Pre-test and Post-test

Measurement Aspect	Pre-test Average	Post-test Average	N-Gain Score	Category
Listening Focus and Attention	52.4	88.6	0.76	High
Comprehension of Content & Storyline	48.5	86.2	0.73	High
Interpretation & Message Response	45.0	85.0	0.73	High
Overall Average	48.6	86.6	0.74	High

DISCUSSION

The results of this study confirm that the integration of interactive podcast media based on on-demand communication provides a real solution to the low listening skills of elementary school students. Based on Cybernetic Theory (Wiener, 1948; Zaini, 2021), instructional communication should not take place in one direction, but must form a feedback loop between the media/teacher and students. Through the Embedded Interactivity feature and reflective pauses in the P-L.E.A.R.N model, students are given the space to respond, process meaning, and actively test their understanding.

In addition, these findings are also in line with the Multimedia Learning Theory (Mayer, 2001) which states that the presentation of verbal stimuli through audio channels combined with structured instructions is able to optimize students' cognitive capacity without overloading working memory (cognitive load). The flexible and self-paced nature of on-demand communication allows students to replay audio parts that have not been understood, thereby fostering independent learning (self-regulated learning) and meeting the demands of 21st-century skills (Febriani et al., 2024; Fadhilah & Ritonga, 2022).

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CONCLUSION

Based on the results of the research and development that have been carried out, it can be concluded that the interactive podcast media based on on-demand communication with the P-L.E.A.R.N model developed through the ADDIE stages is very feasible and effective to be applied in elementary schools. The assessment from material experts (90%), media experts (88%), and language experts (95%) resulted in an overall average validation of 91% with the "Very Feasible" category. Various constructive suggestions and feedback from the validators have successfully accelerated the improvement of product quality before being tested. The field test proved a significant increase in students' listening skills with an N-Gain score of 0.74 (high category). This media provides a theoretical contribution to the development of audio-based multimedia learning models as well as a practical contribution as an innovative alternative learning media for teachers to improve students' basic literacy and listening skills according to the principles of the Merdeka Curriculum.

REFERENCES

Adfar, R., et al. (2024). Analisis keterampilan menyimak siswa sekolah dasar dalam pembelajaran bahasa Indonesia. *Jurnal Pendidikan Dasar Nusantara*, 9(2), 112-125.

Akhyar, M., et al. (2022). Diseminasi penerapan teknologi audio on demand melalui podcast sebagai media informasi di era industri 4.0. Jurnal Pengabdian kepada Masyarakat, 5(1), 45-52.

Amri, Z., et al. (2024). Implementasi Kurikulum Merdeka dalam penguatan literasi dasar di sekolah dasar. Jurnal Basicedu, 8(1), 320-331.

Asmara, Y., et al. (2023). Pemanfaatan podcast sebagai media pembelajaran inovatif di era digital. Jurnal Teknologi Pendidikan, 25(2), 140-155.

Baser, A., et al. (2023). On-demand communication and digital learning environments in modern education. Computers & Education, 192, 104-118.

Branch, R. M. (2009). Instructional design: The ADDIE approach. Springer Science & Business Media.

Busrah, Z., et al. (2025). Adaptif dan bermakna: Pemanfaatan teknologi dalam pembelajaran bahasa di sekolah dasar. Jurnal Inovasi Pendidikan Dasar, 3(1), 12-24.

Fadhilah, N., & Ritonga, M. (2022). Problematika keterampilan menyimak siswa sekolah dasar dan alternatif solusinya. Jurnal Lingkar Mutu Pendidikan, 19(2), 89-101.

Febriani, R., et al. (2024). Improving listening skills through project-based learning and digital

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audio sources. Journal of Elementary Education, 7(1), 55-68.

Hew, K. F. (2009). Use of audio podcast in K-12 and higher education: A review of research topics and methodologies. Educational Technology Research and Development, 57(3), 339-357.

Mayer, R. E. (2001). Multimedia learning. Cambridge University Press.

Meisyanti, & Kencana, D. (2020). Platform digital siaran suara berbasis on-demand sebagai media komunikasi modern. Jurnal Komunikasi & Media, 4(2), 77-88.

Muammar, M., et al. (2018). Hakikat dan strategi pembelajaran menyimak di sekolah dasar. Jurnal Edukasi Bahasa, 2(1), 15-28.

Nursalim, M., et al. (2024). Keterampilan menyimak sebagai fondasi utama literasi bahasa. Jurnal Ilmiah Pendidikan Dasar, 9(1), 210-222.

Putri, R. A., & Devianty, R. (2024). Analisis potensi podcast interaktif dalam pembelajaran menyimak siswa SD. Edukatif: Jurnal Ilmu Pendidikan, 6(3), 1450-1462.

Tanjung, R., et al. (2024). Transformasi digital dan inovasi pedagogi pendidik abad ke-21. Jurnal Kependidikan, 54(1), 88-102.

Wibowo, A. (2022). Media audio digital dan podcast dalam pembelajaran. Prenada Media.

Wiener, N. (1948). Cybernetics: Or control and communication in the animal and the machine. MIT Press.

Zaini, M. (2021). Teori sibernetik dalam komunikasi pembelajaran interaktif. Jurnal Filsafat dan Teori Pendidikan, 3(2), 112-124.

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