



Podcast as a Learning Media for Tropical Nursing Vocabulary: Development and Implementation for Nursing Students

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Article Info	Abstract
Received: 2025-11-27	<i>English proficiency is a vital skill for nursing students to compete in the global health sector. In Indonesia, where tropical diseases remain a major health challenge with high mortality rates, nurses must master English vocabulary related to tropical nursing to better access scientific literature and international practices. Unfortunately, existing learning materials for this purpose are limited and lack contextual relevance. This study aims to develop and implement a podcast grounded in local wisdom as a medium for learning tropical nursing vocabulary among nursing students. It also examines students' perceptions of the podcast in terms of Benefits, Content quality, Accessibility and convenience, Learning effectiveness. The research applies the 4D development model (Define, Design, Develop, and Disseminate). The participants were 91 nursing students from Universitas Tribhuwana Tunggadewi (Malang) and Institut Kesehatan dan Bisnis (Surabaya), representing rural and urban backgrounds. Data were collected using a Likert-scale questionnaire supported by interviews. The findings indicate that the podcast can support students in enriching their tropical nursing English vocabulary. Students showed positive perceptions of the podcast, particularly regarding its benefits, content quality, and accessibility as a learning medium for tropical nursing vocabulary. Further research is expected to develop more relatable podcast episodes and to measure the effectiveness of podcasts in improving students' English vocabulary.</i>
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1. Introduction

English language proficiency in the field of health is an essential competency that nursing students must develop to enhance their competitiveness as professional health workers at both national and international levels (Syukur & Nugraha, 2019; Asa, 2025; Mustika, N & Shopia, A, 2023). One crucial aspect of English mastery is the ability to understand and use vocabulary specific to one's scientific discipline (Kuncoro, 2017; Nurdin, 2023, Fajri and Nelliraharti, 2022).

In the context of Indonesia as a tropical country, mastering vocabulary related to tropical diseases is an urgent need. Diseases such as malaria and dengue fever (DHF) remain serious public health problems in many regions of Indonesia. (Ridhwanulah & Fudholi, 2022) A limited understanding of medical terms and English prevent students from keeping up with global developments in tropical medicine. Beyond improving the quality of patient care, English proficiency also enables nurses to expand opportunities for international employment and access global scholarship programs (Seuk, 2025) Therefore, a learning model that can develop vocabulary related to tropical diseases in a contextual, engaging, and locally relevant way is needed to enhance the professional capacity of future nurses.

In general, English learning in the health field has been widely discussed in relation to students' needs and learning motivation. (Seuk, 2025; Siregar & H, 2017; Milah, Fauziah, & Nurhikmah, 2024; Pantouw, Warous, & Marentek, 2019) However, research focusing on English for tropical disease vocabulary remains limited, particularly in terms of contextual and locally based learning materials. The insufficiency of learning resources and the lack of approaches that incorporate local culture pose challenges for students in acquiring tropical disease-related vocabulary.

The integration of technology in education is no longer merely supplementary; it has become a necessity in the learning process. (Ulinuha & Parnawati, 2021) One innovative medium that has gained popularity is the podcast, as it allows students to access learning materials anytime and anywhere. (Hutabarat, 2020; Rachmawati, Muhajarah, & Kamaliah, 2019; Indriastuti & Saksono, 2015) In the educational context—especially on topics related to tropical diseases—podcasts designed with elements of local wisdom can offer an effective solution. This medium not only presents content that is contextual and relevant to students' environments but also makes learning more accessible and engaging for those from diverse cultural backgrounds.

Although podcasts have been used as learning media in various fields, from literature to social sciences (Indriastuti & Saksono, 2015; Farhan, 2022; Sari & Sazali, 2023), their application in learning tropical disease vocabulary has not been widely explored. Unlike previous studies that focus mainly on general English or medical English, this study emphasizes contextual vocabulary learning in the area of tropical diseases, which are highly relevant to the Indonesian health context. Furthermore, few studies have examined students' perceptions of podcasts as a

medium for learning this specific type of vocabulary. The novelty of this study lies in its integration of local wisdom into a podcast-based learning model that addresses the linguistic and cultural needs of nursing students. This approach offers a new perspective on how digital media and local values can be synergized to promote more meaningful and sustainable English language learning in health education. Therefore, this study aims to:

1. develop a podcast-based learning model that integrates local wisdom, and
2. analyze students' perceptions of the effectiveness of podcasts in improving mastery of vocabulary related to tropical diseases.

2. Method

This study employed the 4D development model (Define, Design, Develop, and Disseminate) to create a podcast-based learning model that integrated local wisdom for learning tropical disease nursing vocabulary. The 4D model included four stages (Jafnihirda, Suparmi, Ambiyar, Rizal, & Pratiwi, 2023), namely:

- 1) Define, which began with a needs analysis conducted through literature review, interviews, and questionnaires with the lecturer and tropical nursing students to identify their difficulties in understanding vocabulary related to tropical disease nursing;
- 2) Design, which involved developing the podcast concept, including topic selection, presentation structure, and integration of elements of local wisdom relevant to nursing practices related to tropical diseases in Indonesia;
- 3) Develop, which consisted of podcast production and validation by linguists and nursing experts.
- 4) Disseminate, which involved distributing the finalized podcast to students as a learning medium.

The population of this study consisted of 91 nursing students from private universities in Malang and Surabaya who were enrolled in a tropical disease nursing course. A total purposive sampling technique was applied meaning that all participants following the criteria that are those requiring support in learning tropical disease nursing vocabulary were included in the research. The research instruments consisted of a questionnaire and interview guide designed to measure students' perceptions of the podcasts based on several aspects: ease of access, material comprehensibility, student engagement, perceived learning benefits, and relevance to student needs. Prior to distribution, the questionnaire was tested for validity and reliability through expert judgment and statistical analysis.

Quantitative data from the questionnaires were analyzed using descriptive statistics. The collected data were analyzed quantitatively to calculate the mean and percentage for each aspect. The mean score was calculated using the following formula:

$$\text{Mean} = \frac{\sum X}{N}$$

N

Meanwhile, the percentage was computed as:

$$\text{Percentage} = \frac{\text{Obtained Score}}{\text{Maximum Score}} \times 100\%$$

Maximum Score

To interpret the level of students' perceptions, the mean scores were categorized based on a four-point Likert scale interval. The interval value was determined by the formula resulting in the following interpretation:

3.26–4.00	Strongly agree
2.51–3.25	Agree
1.76–2.50	Disagree
1.00–1.75	Strongly Disagree

Qualitative data from the interviews were analyzed through thematic analysis, involving data transcription, coding, categorization, and interpretation to identify recurring themes related to students' experiences and perceptions of the podcast-based learning model.

3. Result

The Tropical NurseTalk Podcast

The result of the Define stage indicate several important inputs gathered from the lecturer and students of the Tropical Nursing course. Analysis of the course lesson plan, supported by the lecturer's suggestion, identified the essential topics that needed to be included in the learning media (Podcasts). Therefore, they fit with the course learning outcomes.

The students interview further revealed key challenges and expectation that informed the media development process. Students reported struggling particularly with English terminology especially in Tropical nursing, stating that:

(1) "English terms are difficult, so we usually not learning material in English."

Students also expressed the need for more engaging learning media, preferring video-based materials that support comprehension. Several students emphasized the importance of readable and accessible text support, especially in Bahasa Indonesia.

(2) "Because English is difficult, I think lecturer should provide a media like video so we can watch and learn it fun."

(3) "If it is possible, the video should be included the text so we can read. The text should be in Bahasa so we can learn easily."

Practical consideration also came as a result, particularly regarding internet access and data usage. Students preferred short video, recommending a duration of less than 15 minutes to maintain focus, fit their study schedules and cost

efficiency as expressed by one of students:

(4) If possible, the video should be short because sometimes we don't have the access to Wifi. If the video too long, then we are afraid of our internet fare will raising.

These finding were then used to develop the overall concept, select the topics, and integrate elements of local wisdom into the podcast. Based on this process, the podcast—titled “The Tropical Nurse Talk”—was divided into four episodes:

1. **Episode 1: Welcome to the Tropics- What is Tropical Nursing?**
2. **Episode 2: Common Tropical Diseases**
3. **Episode 3: Between Myths and Medicine**
4. **Episode 4: Respecting Culture in Tropical Nursing Cases**

The selected topics were developed into podcast scripts for both the host and guest, with careful attention to the target language. Feedback from the media expert emphasized the importance of making the podcast comprehensible for beginner or low-proficiency students and recommended the inclusion of Bahasa Indonesia subtitles to support understanding. In response to this suggestion, Bahasa Indonesia subtitles were incorporated into the podcast videos. Additionally, feedback from the language expert suggested that key vocabulary items should be visually highlighted during the podcast through on-screen text or word bubbles, allowing students to read and reinforce the target English vocabulary while watching as seen on the following figure.



Figure 1. Tropical Nurse Talk Podcast Youtube Channel

The finalized video podcast was then uploaded to the *Tropical Nurse Talk Podcast* *Youtube* channel (<https://www.youtube.com/@TropicalNursetalkPodcast>)

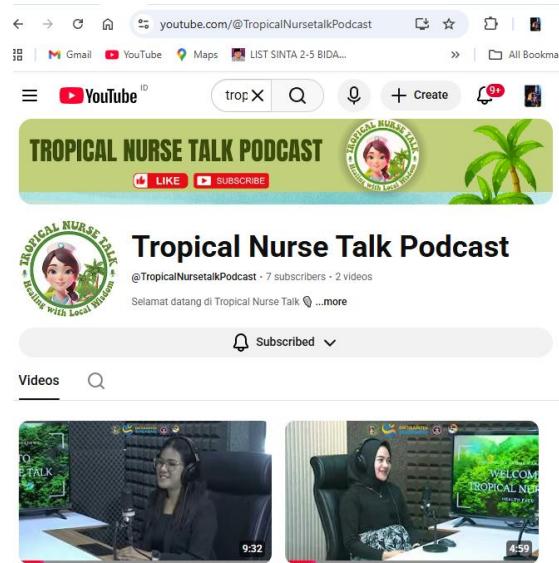


Figure 2. Tropical Nurse Talk Podcast YouTube Channel

Students' Views on the Podcast

The analysis of students' perceptions of the learning media was obtained through a questionnaire. The questionnaire was administered to 91 students after all podcast episodes had been played in each class or study group. The results indicate overall positive responses across all measured aspects. As presented in Table 1, the highest mean score was found in Part A (Perceived Benefits), with an average of 3.40 (85%), indicating that students strongly agreed that the podcast-based learning media was beneficial for their learning.

Table 1. Mean and Percentage of Aspects measured

Aspects	Mean	Percentage
A. Perceived Benefits	3.40	85%
B. Content Quality	3.36	84%
C. Students Engagement	3.16	79%
D. Accessibility and Convenience	3.28	82%
E. Learning Effectiveness	2.98	75%

This was followed by Part B (Content Quality) with a mean of 3.36 (84%), suggesting that students found the materials to be clear, relevant, and of good quality. Part D (Accessibility and Convenience) also received a relatively high score of 3.28 (82%), showing that most students considered the media easy to access and comfortable to use. Meanwhile, Part C (Student Engagement) obtained a slightly lower mean of 3.16 (79%), indicating that while students were engaged, there is still room to enhance the interactive or motivational elements of the media.

The lowest mean was recorded in Part E (Learning Effectiveness) with 2.98 (75%), which nonetheless still falls into the "good" category, but suggests that further improvements could be made to strengthen the media's effectiveness in

supporting learning outcomes.

Qualitative data from semi-structured interviews involving two groups of students (each consisting of five participants from different university) supported the quantitative findings and were categorized into three main themes: perceived benefits, convenience of use, and learning effectiveness. In the perceived benefits theme, students reported that the podcasts enabled them to learn independently outside the classroom and supported the improvement of their English vocabulary,

particularly in the context of tropical nursing. Students also emphasized that the inclusion of local wisdom and culturally familiar contexts, such as examples of tropical diseases commonly encountered in their communities, helped them relate the learning materials to their daily experiences as nursing students. This cultural familiarity made the content easier to understand and more meaningful, as students were already familiar with the diseases and practices discussed. In terms of convenience, students described the podcasts using terms such as confident, good, and easy, reflecting positive experiences related to accessibility and usability.

Concerning learning effectiveness, students highlighted the use of subtitles as a helpful feature that supported their understanding of the topics and reinforced vocabulary learning. These qualitative insights align with the questionnaire results, confirming that the podcast-based learning media was beneficial, accessible, and supportive of students' learning processes.

Overall, the findings demonstrate that the developed learning media was well-received and perceived positively by students, particularly in terms of its usefulness, content quality, and accessibility.

4. Discussion

Perceived Benefits of the Podcast

The high score in the Perceived Benefits category demonstrates that students recognized the podcast as a relevant and supportive tool for understanding Tropical Nursing content. This perception was reinforced by interview responses, where several students emphasized how the podcast strengthened their understanding of English terminology used in Tropical nursing. One participant stated:

"It helps me to learn English about tropical nursing,"

suggesting that the audio-visual explanations effectively simplified complex terminology. Multimedia-based learning has been shown to enhance comprehension by presenting information through multiple channels, which reduces cognitive load and improves retention (Rahimi & Allahyari, 2019).

Beyond linguistic support, students also benefited from the use of culturally familiar and locally relevant examples, such as tropical diseases and their symptoms in Indonesia. These cultural contexts allowed students to connect new

English vocabulary with prior knowledge and real-life nursing experiences, making the learning process more meaningful and easier to understand. The strong positive perception suggests that combining audio explanations with visuals helped students grasp English terminology and culturally grounded nursing concepts easily.

Content Quality and Relevance

The high-rating for Content Quality ($M = 3.36$; 84%) reflects students' satisfaction with the clarity, organization, and relevance of the materials. The expert validation conducted during the Design stage appears to have contributed to this outcome. Qualitative feedback supported this, with students mentioning that the content was "clear," "easy to understand," and "well explained." In addition, students appreciated the inclusion of culturally familiar contexts, such as examples of tropical diseases and nursing practices commonly encountered in their local healthcare. One student explained,

"English is difficult, but because there is the text on the podcast, it is easier for me to follow,"

"The use of term like "masuk angin", "kerokan", "angina duduk" make me feel comfortable watching the Podcast"

Highlighting how subtitles and cultural context increased clarity and supported lower-proficiency learners. This aligns with findings that well-structured content and supportive scaffolding improve learners' experience and perceived usefulness of instructional materials (Al-Fraihat, Joy, Masa'deh, & Sinclair, 2020)

Accessibility and Convenience

A strong mean score in the Accessibility and Convenience dimension ($M = 3.28$; 82%) indicates that students appreciated the flexibility of accessing the podcast. Uploading the media on YouTube allowed students to view the episodes any time and across devices. This was echoed in student interviews, with one participant stating, "Flexible time to watch—I can repeat it anytime when I don't understand." This supports the literature showing that asynchronous digital learning enhances autonomy and reduces learning barriers (Hrastinski, 2008). The ability to revisit content multiple times suggests that the platform choice was effective in supporting students' diverse learning needs.

Student Engagement

Student Engagement obtained a moderate score ($M = 3.16$; 79%), suggesting that the podcast was engaging but could be enhanced with more interactive features. Qualitative comments revealed that students enjoyed the delivery style, visuals, and examples. One student noted, "The sound and picture

quality is good, so I can focus on the material," indicating that production quality positively affected their engagement. Others appreciated the case examples, with a student stating, "The examples make me understand how the disease looks in real situations." However, some students expressed a desire for more dynamic or interactive elements, consistent with research suggesting that engagement increases when learners participate actively rather than passively (Henrie & Lisa R.Halverson, 2015). This points to an opportunity to integrate reflective questions, short quizzes, or prompts in future episodes.

Learning Effectiveness

Although Learning Effectiveness recorded the lowest mean score ($M = 2.98$; 75%), it still falls within a positive category. Students perceived the podcast as helpful but may not have felt substantial improvement in learning outcomes from the podcast alone. Many learners indicated that the podcast supported understanding but may not fully replace other instructional methods. As one student shared, "I like that I can repeat it, but I still need more practice to remember the terms." This finding aligns with the literature that media alone does not guarantee strong learning outcomes unless combined with deliberate instructional strategies (Fyfield, 2020). The podcast appears to serve best as a supplementary tool rather than a stand-alone learning method

Overall, students' responses indicate that the podcast-based learning media successfully addressed several key aspects of learning, particularly benefits, content quality, and accessibility. The relatively lower score in the Learning Effectiveness indicates that, while students perceived the podcast as helpful, it may not have fully supported long-term retention or mastery of vocabulary. This may be due to the passive nature of podcast consumption, where students primarily listen and watch without sufficient opportunities to actively practice or apply new vocabulary. However, improvements in interactivity and structured learning support may enhance engagement and learning outcomes. These findings contribute to the growing literature on podcast-based learning in health education and highlight the importance of combining digital resources with active pedagogical strategies.

5. Conclusion

This study successfully developed the Tropical Nurse Talk podcast through the 4D development model, responding to the needs identified during the Define stage. The needs analysis highlighted students' difficulties in understanding English terminology in Tropical Nursing, their preference for visually supported learning media, and their expectation for short, accessible video content. The perception questionnaire results showed overall positive responses, particularly regarding the podcast's benefits, content quality, and accessibility.

Although the learning effectiveness category scored slightly lower, it remained within the “good” range, indicating that the podcast contributes meaningfully to student learning. To improve learning effectiveness and retention in future designs, podcasts could be complemented with interactive elements, such as quizzes, reflection prompts, or vocabulary recall tasks linked to each episode. This pedagogical can be implemented by using podcasts as a supplementary learning resource to support vocabulary development in tropical nursing courses. Podcasts may be assigned as asynchronous materials that students can access before lectures to familiarize themselves with key terminology, allowing classroom time to be used for discussion, practice, and clarification. Additionally, podcasts can support independent and lifelong learning by enabling students to review materials repeatedly at their own pace, which is particularly beneficial for students with lower English proficiency.

Overall, the Tropical Nurse Talk podcast demonstrates strong potential as an engaging and supportive learning resource for students in Tropical Nursing. For future research, it is recommended to expand the podcast topics, incorporate more interactive features, and evaluate the media’s impact on measurable learning outcomes beyond perception.

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