Profile of The Needs for Digital-Based Listening Learning Media in Higher Education : Responding to The Challenges of 21st Century Learning

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Abstract: This study aims to identify the required listening comprehension learning media for lecturers and students, and assess their suitability for today's digital era in higher education. The research employed a descriptive qualitative approach with a cross-sectional survey design. The informants in this research involved students from Indonesian Language and Literature Education from Riau University, Riau Islamic University, and Sultan Syarif Kasim Riau State Islamic University who took Listening classes in the Indonesian Language and Literature Education study program. Data were collected through open questionnaires distributed to participants using Google Forms comprising 30 questions. The data analysis involved various stages, including data recording, accuracy verification, database structure development, calculating data acquisition percentages based on classification, data analysis, and data summarization. The results indicated that the needs for digital-based listening comprehension learning media were determined based on four indicators: content, language, graphics, and learning media aspects. The envisioned learning media should take the form of an application with comprehensive and meaningful teaching materials, including ebooks, integrating textual, visual, and video content to reflect the local wisdom of Riau culture, thereby fostering students' critical thinking, reasoning, and imagination skills.

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Introduction

In the current 21st-century landscape, human resources are expected to encompass not only skills and understanding but also emphasize creativity, collaboration, and language proficiency (Prayogi & Estetika, 2019). These three major domains involve knowledge and creativity, belief and motivation in learning, metacognition and self-directed learning, effective communication, and responsibility (Haug & Mork, 2021). One of the domains indicates that language proficiency plays a significant role in achieving the desired goals of 21st-century competencies (Menggo & Ndiung, 2022).

To achieve the desired goals, the innovation of language skills mastery, including listening, reading, speaking, and writing, becomes a crucial necessity for language proficiency to meet the demands of the current era. Language learning is perceived as a transdisciplinary process within the context of a multicultural and multilingual reality in today's era of globalization (Coombe et al., 2020). This situation is undoubtedly influenced by technological innovations and the accessibility of the present age (Malik, 2018). In line with the expectations of 21st-century skills, listening skills are included in the curriculum of the Indonesian Language and Literature Education Program at the tertiary level. Through this

course, students are expected to become proficient in extensive and intensive listening. However, the issue of Listening instruction has become a matter of concern among academics. Listening instruction tends to prioritize students' cognitive aspects. The learning media for listening have not adequately represented the actual listening activities that should be practiced repeatedly. As a result, the substantial aspect of habituating students to active listening is not adequately addressed. This phenomenon has become a perception among students, highlighting the importance of improving media and applications for listening instruction as a follow-up to innovative listening learning (Septyanti & Kurniaman, 2019).

However, among language skills, listening skill plays a crucial role both in daily life and in an academic context to maintain effective communication (Deveci, 2018). Understanding listening involves the ability to comprehend and extract meaning from spoken sentences, stories, and instructions. This skill has long-term effects on school performance, employability, income, and social participation (Hagen et al., 2022). Surprisingly, research findings indicate that only 29% of listeners can perform listening activities (Serrano, 2022). Yet, listening plays a significant role in communication activities, occupying 80% of a person's time (Puspitasari et al., 2021). This suggests an imbalance between 'das sein' and 'das sollen,' indicating that there is room for improvement. It is essential to consider how to integrate listening activities during the learning process and provide students with meaningful listening opportunities, both inside and outside the classroom (Patni, 2022). For example, the integration of listening instruction can be done in the classroom (Septyanti & Kurniawan, 2020). However, there are weaknesses in the classroom setup as it does not yet provide sufficiently adequate features to present integrated listening materials effectively."

Therefore, the learning process should not be separated from the role of media. The involvement of media is crucial for the continuity of the learning process, encompassing various forms such as visual, audio, audio-visual, and multimedia (Sari et al., 2020). The use of media in education is of utmost importance to achieve the intended learning objectives effectively as designed by educators (Wulan et al., 2022). Integrating media into the learning process can provide meaningful experiences for students (Rambe et al., 2022). To adapt educational practices involving technology at the educational level, multimedia-based learning media or applications are assumed to be suitable for the current curriculum conditions. However, this presents a challenge for educators to make learning active, creative, innovative, engaging, and enjoyable for students. Therefore, to keep up with this technological revolution, innovation and technology-based learning strategies are highly required, aligning with the challenges of this era's development (Toifah, 2021).

Several researchers have previously conducted studies on listening activities. (Resnani, 2019) applied the cooperative learning model in the Basic Language Skills (KDB) course, utilizing technology-based audio-visual media during the learning process. The issue arises due to the limited use of learning media, less varied listening learning strategies, and monotonous approaches that do not empower students to be actively engaged and creative. Furthermore, to support listening learning, incorporating local wisdom in the listening materials can enhance students' literacy skills. The utilization of Worksheets (LK) accompanied by audio listening materials serves as a supportive tool in the listening learning process (Pujiatna et al., 2020). (Ogustina et al., 2021) also found in their research that 1) the availability of listening materials is still insufficient even when using the internet for searching; 2) accessing Indonesian local wisdom content in learning materials is challenging despite its significance; 3) there is a need to increase the availability of audio-visual (video) listening materials for the learning process.

Referring to previous studies, the profile of learning needs in listening comprehension should have been examined, but the content that describes students' needs remains incomprehensive. Further research is still required to determine the required Listening Comprehension learning media in the current digital era, especially at the higher education level. Research on Listening Comprehension skills in higher education is still limited. However, the Listening Comprehension course is essential for students to master not only cognitively but also psychomotorically. Therefore, the findings of the respondents' needs become the state of the art of this research, providing considerations for developing representative and contextual media to meet the Listening Comprehension learning needs in the Indonesian Language and Literature Education Study Program.

Research Method

The research design employed in this study is a descriptive qualitative approach with a survey cross-sectional design. This approach is utilized to collect data from specific groups and subsequently analyze it to make statements about those groups. The type of research used in this study is a cross-sectional survey (Bogossian et al., 2018). In a cross-sectional survey, data is collected from a sample of a pre-defined population or from the entire population at a single point in time and analyzed using various methods appropriate for the type of inference the researcher intends to make. This research constitutes a part of the needs analysis in the development research, which serves as a continuation of this study.

Sampling was carried out by selecting representative samples. A representative sample is a sample that is similar to the population from which it comes. The sampling technique in this research is based on non-probability sampling. The type used is quota sampling, where participants or informants are selected based on predetermined characteristics so that the total sample will have the same distribution of characteristics as the wider population (Firmansyah & Dede, 2022). The informants in this research involved students from Indonesian Language and Literature Education from Riau University, Riau Islamic University, and Sultan Syarif Kasim Riau State Islamic University who took Listening classes in the Indonesian Language and Literature Education study program.

Survey data were obtained by distributing an open questionnaire instrument to lecturers and students from the three universities. The distribution was conducted using Google Forms. The indicators used to trace the data on needs included (1) content needs, (2) language needs, (3) graphic needs, and (4) learning media needs. This adapts to the challenges of 21st-century learning that the process of developing interactive multimedia learning needs to pay attention to several components, such as text, audio, video, graphics, animation, interaction and graphics (Rachmadtullah et al., 2018). The total number of questions was 30. The data analysis was carried out in several stages, including (1) data recording, (2) data accuracy verification, (3) database structure development, (4) data input into the computer program, (5) data classification calculation, (6) data analysis, and (7) data summarization (Widi, 2019).

Results and Discussion

The research findings formulate several aspects of needs analysis, namely content aspect, language aspect, graphic aspect, and learning media aspect.

The Content Aspect

The content aspect is an essential part of instructional material development. The development of the content aspect is adjusted according to three indicators: learning outcomes, material suitability, and material usefulness (Marciniak & Cáliz Rivera, 2021).

These three content indicators are formulated in the form of questions to obtain responses from the respondents. The results can be seen in Table 1.

Table 1. Analysis of Content Aspect Needs

Indicator	Question	Suggestion	%		X	Detail
			L	S		
Suitability of LO, LO PLO, and Sub PLO	What learning outcomes do you need to achieve while studying the Listening Comprehension course?	Mastery of various listening competencies.	33,33	23,98	28,66	-
The suitability of the material	Learning materials will be easier to understand if?	aligned with real-life situations	85,71	85,53	85,62	-
The usefulness of the material	What kind of benefits do you expect after completing the listening comprehension learning?	Mastery of skills that can be implemented in real-life	44,44	62,57	53,51	-

Based on Table 1, regarding the indicator of suitability of learning outcomes, there is a need for content presentation that guides efforts to master various listening competencies. This is evidenced by 33.33% of respondents from the lecturer group, 23.98% from the student group, and an average of 28.66%. However, respondents also suggested that each student should understand the variety and theory of listening skills to strengthen the competencies aimed at listening learning. (Abobaker, 2017) In his study, found that providing comprehensive information can help strengthen students' understanding and listening skills. Conversely, a weak understanding of the essence of listening can affect the quality of students' listening skills.

Meanwhile, the indicator of material suitability tends to be oriented towards real-life situations. Respondents from the lecturer group (85.71%), the student group, and the average (85.62%) recommend that the developed materials should be aligned with real-life situations. Materials presented in connection with real-life experiences also assist students in understanding and reasoning about the information they receive. Rarely heard or indirectly related information to real-life situations can make it difficult for students to comprehend the listening material. Therefore, it is highly recommended to adjust the content or information of the material to the required context, such as real-life situations (Alam, 2010). It is further stated that this approach is communicative and effective in helping students develop their abilities.

In the indicator related to the usefulness of the material, among lecturers, 44.44% of respondents, among students, 62.57%, and on average, 53.51% expect that the mastery of listening skills can be implemented in real-life. This response is highly relevant as the information presented in the listening material is related to real-life situations, thereby shaping students' implementation of listening skills. Furthermore, to strengthen the essence of the usefulness of listening material for students, the material can also be supplemented with various types of listening skills. This approach is an effort to foster a positive attitude among students towards mastering listening skills (Wootipong, 2014).

Language Aspect

The linguistic aspect serves as a central element in delivering information in a verbal manner. Failure in this linguistic aspect can affect comprehension and the expected quality of skills. Therefore, the linguistic aspect cannot be separated from listening learning. The indicators related to linguistics are text readability, information clarity, adherence to language rules, and communicativeness (Hasanah & Syamsi, 2020). The results of the analysis can be presented in Table 2.

Table 2. Need Analysis of Language Aspect

Indicator	Question	Suggestion	%			Detail
			L	S		
Readability of the Text	What vocabulary do you need to facilitate your understanding of Listening Comprehension materials?	Popular words	36,36	31,79	34,08	-
Clarity of Information	What information do you need to understand Listening Comprehension teaching materials?	Complex informatio n	44,44	37,31	40,88	-
Appropriateness of Language Rules	What language rules do you need to facilitate your understanding of Listening Comprehension materials?	Accuracy in using standardize d words	55,56	39,71	47,63	Supported with spelling and pronunciatio n
Communicative	What type of sentences do you need to facilitate your understanding of Listening Comprehension materials?	Simple sentences	33,33	80,25	56,79	Suggestions for incorporating complex sentences among the instructors.

In Table 2, respondents among lecturers showed a support of 36.36%, while students showed 31.79%, with an average of 34.08%, suggesting that texts should be readable and understandable using popular vocabulary. In certain aspects, it is highly possible to use other words, whether they are technical, concrete, abstract, or others. The use of popular vocabulary can facilitate students' comprehension of information or listening materials. The ease provided in the linguistic aspect, especially in word choices, can assist in achieving the learning objectives, particularly in understanding the studied materials. (Davies, 2011) emphasizes that clarity and accuracy of information or language aid students in comprehending listening materials. Conversely, difficult linguistic aspects or word choices have the potential to weaken or even hinder learning targets.

The information needed in listening materials is crucial, considering various linguistic aspects, including the level of complexity of the presented information. Providing insights into the presence of complex information also contributes to the delivery of listening materials. It is noted that 44.44% of lecturers, 30.73% of students, with an average of 40.88%, expect that complex information in listening materials should be taken into consideration. Comprehensive or extensive information will assist students in comprehending the content and guide them in developing a better understanding (Davies, 2011). (Willson, 2022) emphasizes that the completeness of instructional information determines the success of the teaching and learning process; therefore, educators and lecturers need to prepare complex information accordingly.

Furthermore, other aspects such as the use of standardized vocabulary and simple sentences need to be considered. Respondent data indicates that among lecturers, 55.56% and among students, 39.7%, with an average of 47.63%, suggest that the use of standardized vocabulary in listening materials is essential for both oral and written contexts. Specifically, in oral contexts, clarity in pronunciation is crucial to avoid misunderstandings or misinterpretation of the information being conveyed. The choice of sentences used to deliver information is also emphasized. Among lecturers, 33.30%, among students, 80.25%, with an average of 50.56%, focus on using simple sentences, and in specific contexts, more complex sentences can be employed. This approach is aimed at enhancing the communicative and varied nature of the conveyed information (Kågebäck et al., 2020). A similar approach utilizing both simple and complex sentence structures is also employed (Rahmasari et al., 2023) to assess the effectiveness of information reception in the learning process.

The Graphic Design Aspect

The Graphic Design Aspect is another crucial part of delivering instructional materials, including learning media. The suitability of the graphic design presented depends on the users of the learning media, especially at different educational levels. Therefore, graphic design components need to consider font types, font sizes, paper sizes, layout, and arrangement, color choices, as well as the selection of images, photos, and/or videos embedded in the learning media (Heller et al., 2001). The graphic design requirements are obtained as described in Table 3 below.

Table 3. The Graphic Need

Indicator	Question	Suggestion	%		X	Detail
			L	S		
Use of font type and size	When reading teaching materials, what font type and size do you prefer?	Times new roman, 12	71,43	87,18	79,30	Other font types like Calibri, Arial, and Comic Sans MS are also possible choices.
Use of layout, paper, and arrangement	Which book format do you prefer in terms of paper size?	Kertas A4, 21x29 cm	66,67	68,48	67,57	-

	Which book layout do you prefer?	Without frames/borders	66,67	42,28	54,47	If needed, frames can be adjusted according to requirements.
Use of illustrations, pictures, and videos	What kind of illustrations do you prefer in the presentation of listening comprehension teaching materials?	Include pictures, audio, and videos	66,67	53,14	59,90	-
Use of color display	What type of color gradient do you like?	Bright colors	50,00	28,90	39,45	Black and white and other colors can be adapted to the needs.

Table 3 contains information regarding the graphic design needs, which include four indicators: the use of font types and sizes, layout, paper, and arrangement; the use of illustrative images and videos, and the use of color display. In the first indicator, on average, 79.30% of the respondents suggested using Times New Roman 12 as the font type and size. However, other font types such as Calibri, Arial, and Comic Sans MS were also considered as alternatives for presenting instructional materials on Listening Skills at the university level. Another component supporting graphic design is the use of layout, paper, and arrangement, with the suggestion of using A4 paper, 21x29 cm without borders, to create an appealing display for the instructional materials on listening skills. To enhance the instructional materials, an average of 59.90% of the faculty and students proposed incorporating images, audio, and videos as learning media for Listening Skills. The availability of images, audio, and videos can be implemented for practice in listening comprehension.

(Nirmalasari, 2022) concluded using clear font types and sizes in graphic design can increase students' interest in using instructional materials while also influencing the arrangement of the content to maintain clarity. Moreover, instructional materials enhanced with illustrations, graphics, photos, and images can further clarify the content. An attractive presentation with suitable color schemes and designs is appropriate for adult learners. According to Rasmitadila et al. (2020), an appealing and appropriate layout has a positive impact on students' learning. Their research found that an appropriate design can boost learning participation by up to 50.53%. Based on these findings, it is evident that a well-designed and visually appealing learning tool can significantly assist students in improving the quality of their learning.

Media Aspect

As part of the learning process, material presentation can be facilitated through various media. The demands of the current digital era emphasize the use of instructional media, such as audio media, visual media, audio-visual media, multimedia, and photography. These efforts aim to support active, creative, and innovative learning activities, especially in higher education. Utilizing media also caters to the diverse learning styles of today's students and provides the flexibility to learn anytime and anywhere. Therefore, (Shahbaznezhad et al., 2021) and (Wiana et al., 2018) the exploration of representative media indicators needs to

consider several factors, such as media format, presentation format, content format, text format, and the purpose of media utilization, as shown in Table 4 below.

Table 4. Learning Media

Indicator	Question	Suggestion	%		X	Detail
			L	S		
Type of Media	What type of instructional media do you need for Listening Comprehension learning?	Connected digital platform PC/laptop or Android	37,50	45,63	41,57	Can be supplemented with e-books and application-based platforms.
Presentation format in media	What kind of digital media do you expect to be presented in Listening Comprehension learning?	Interactive	66,67	74,21	70,44	-
Content presentation in media	What type of Listening Comprehension content do you desire to be available in the media?	Riau cultural local wisdom	71,43	50,00	60,71	Supported also with local tourist attractions.
Presentation model	Presentation model of text that you expect to be presented in Listening Comprehension media?	dialogue	60,00	62,28	61,14	Partly can be in the form of monologues
Media emphasis needed	What media emphasis is needed for information development in the 21st century?	Developing critical thinking	50,00	43,00	46,50	Can encourage reasoning or imagination

Based on Table 4, as a requirement in Listening Comprehension learning, digital media connected to PC, laptop, or Android device is preferred by both lecturers and students. On average, 46.50% of the respondents choose the option of utilizing digital platforms in the 21st century. This also allows for platforms equipped with e-books. In its implications, digital media with online or offline systems and remote access are more responsive to the needs of students and lecturers (Zawacki-richter & Jung, 2023). This convenience enables students not only to study inside the classroom but also independently outside the classroom. With the advancement of technology, lecturers are required to innovate in implementing instructional media that can adapt to the changing times (Firmadani, 2020) .

Supporting the previous findings, an average of 70.44% of the respondents, both lecturers and students, expect interactive presentations in listening comprehension learning. In terms of content, this instructional media can provide meaningful content, such as

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incorporating the local cultural wisdom of Riau. It is possible to include Riau's tourist attractions among the desired cultural elements.

Furthermore, the text model preferred by lecturers and students is in the form of dialogues, with 61.14% expressing this preference, while others consider monologue texts as an alternative way to present content for students' listening practice. This serves as a facility to enhance students' critical thinking abilities, as indicated by the percentage obtained from the respondents, which is 46.50. Additionally, the applied media can potentially stimulate reasoning and imagination. This aspect is crucial for students' life skills in communication, benefiting their employability and adaptability in the workforce (Kurniawan et al., 2018).

Through the results of this research, conceptually and practically in facilitating complex listening learning. Obtaining data on needs is the basis for preparing listening teaching materials that are presented digitally. Of course, important components in teaching materials that contain the learning pedagogy required for students are considered. Delivery of listening material can also be distributed via technology so that it is in line with the learning needs of the digital era in synergy with technology. Students can also study independently, not just listening to the lecturer's explanations in class. Students can read, repeat and practice listening concepts on the media developed.

Conclusion

The research findings indicate that the profile of digital-based listening comprehension learning media needs is based on four indicators, encompassing content, language aspects, graphics, and instructional media. In terms of content, the needs tend to focus on listening materials based on real-life situations, enabling students to develop effective listening skills applicable in work environments. Regarding language aspects, students and lecturers prefer the use of popular, standardized, comprehensive, and simple vocabulary. This aspect aligns with the graphic elements, including the selection of Times New Roman font size 12, bright layout colors, and a frameless presentation for a clean and intellectual appearance. Moreover, the media includes relevant images, photos, audio, and even videos to support the listening-learning experience. To meet these needs, interactive digital-based audio-visual media is required, providing texts, images, audio, and videos that embrace the local cultural wisdom of Malay culture, presented in both dialogue and monologue formats to stimulate students' critical thinking and reasoning, as well as imagination.

Recommendation

Referring to the research findings on the profile of learning media needs, this study is expected to proceed to the next research phase, which involves designing and developing digital-based learning media. The available learning media is envisioned to take the form of an application that encompasses complex and meaningful instructional materials (including the provision of ebooks) with content comprising texts, images, and videos reflecting the local cultural wisdom of Riau. This approach aims to enhance students' critical thinking, reasoning, and even imagination. Additionally, by exploring the need for listening learning media, lecturers can prepare innovative learning media and represent listening activities through the facilities presented during the learning process.

Acknowledgement

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