

Developing K-Quiz Android Application of Descriptive Text English Listening Skill for Culinary Art Students: A Research and Development Study

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Abstract

The objective of this research is to develop "K-Quiz," an Android-based application designed as an effective instructional media to improve the English listening skills of tenth-grade Culinary Art students at SMK Negeri 3 Blitar. This study addresses the specific challenges in vocational education, particularly the lack of interactive media that integrates culinary-themed descriptive texts with mobile technology. The methodology employed is Research and Development (R&D), following the systematic ADDIE model which consists of five integrated phases: Analysis, Design, Development, Implementation, and Evaluation. In the analysis phase, pedagogical observations and interviews revealed that students struggled with auditory comprehension due to the use of conventional, non-vocational learning materials. During the development phase, the "K-Quiz" application was constructed using an Android platform and underwent rigorous validation. The results of the material expert validation reached 86.6%, while the media expert validation achieved a score of 88.5%, placing the product in the "Highly Valid" category. In the implementation phase, a perception test conducted with tenth-grade culinary students yielded an average score of 92%, indicating that the application is highly practical and engaging for classroom use. The study concludes that the K-Quiz application effectively bridges the gap between general English theory and professional vocational requirements. It provides a flexible learning environment that enhances students' motivation and mastery of descriptive oral information in a culinary context.

Keywords: ADDIE Model, Android Application, Culinary Art, K-Quiz, Research and Development.

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1. INTRODUCTION

English is recognized as a vital subject in Indonesia, serving as a primary tool for international communication and global tourism (Todo, 2013). Within the Indonesian educational landscape, the vocational high school (SMK) curriculum mandates a student-centered approach where learners are expected to be more proactive in mastering English to meet professional industry standards and improve the national education quality (Ruang Baca, 2018). Among the four foundational language skills, listening is considered a crucial component as it is the primary channel for language acquisition and is deeply interconnected with various vocational fields (Rost, 2011). Without effective listening abilities, students struggle to understand spoken instructions, technical terminology, and shared communication, which eventually hinders their professional competence in the workplace (Tarigan, 2008; Sari, HP 2021).

Despite its importance, listening remains a significant challenge for vocational students. Observations and interviews at SMK Negeri 3 Blitar revealed that while tenth-grade Culinary Art students demonstrate an interest in English, they often face difficulties in comprehending descriptive text materials. These students specifically struggle to identify oral descriptions of kitchen utensils, food ingredients, and restaurant settings, which are fundamental to their major. The English teachers at the school noted that students' low proficiency in listening is exacerbated by the lack of innovative teaching media. Most instructors still rely heavily on conventional textbooks and school-provided worksheets (LKS) which lack the interactive auditory stimuli necessary for upgrading students' auditory skills in a vocational context. Furthermore, students reported that they often fail to stay focused and lose motivation due to the absence of engaging, mobile-friendly resources that align with their specific culinary background and the fast-paced nature of modern digital learning.

To address these challenges, the integration of technology and interactive media is essential. Previous studies have shown that digital media can stimulate a student's attention, feelings, and interest, thereby facilitating a more effective and immersive learning process (Sudjana & Rivai, 2002). Innovative media not only simplifies the transfer of complex linguistic theories but also creates a fun, low-anxiety, and interactive classroom environment (Ratminingsih, 2016). Educational technology, particularly smartphone-based learning, allows students to study more flexibly accessing materials anytime and anywhere making the learning process simpler, more personalized, and accessible for today's digital natives (Naya, 2018).

The primary objective of this research is to develop "K-Quiz," an Android-based application designed as a specialized instructional tool to enhance the listening skills of tenth-grade Culinary Art students. This application is constructed to provide a more contextualized learning experience by integrating descriptive texts that are directly relevant to the culinary industry. This study employs the Research and Development (R&D) design, specifically utilizing the ADDIE model (Analyze, Design, Develop, Implement, and Evaluate) to produce high-quality, validated instructional materials (Branch, 2009). Explicitly, there is a significant gap in the literature regarding the development of Android-based listening applications that specifically focus on descriptive texts tailored for vocational students in the culinary sector. By providing interactive quizzes, clear audio recordings, and vocational-themed drills, this research

aims to bridge the gap between classroom theory and the practical, real-world English usage required in the culinary profession.

2. LITERATURE REVIEW

The theoretical framework of this research is built upon three main pillars: the nature of listening comprehension, the application of Android-based instructional media, and the characteristics of descriptive text in a vocational context. Listening is an active process by which students receive, construct meaning from, and respond to spoken or nonverbal messages (Emmert, 1994). Mastery in listening involves an activity process of listening to oral symbols attentively, understanding, appreciation, and interpretation to get information and catch the meaning of communication shared by the speaker (Tarigan, 2008). For vocational students, specifically in the culinary art department, this mastery is a crucial component of spoken language processing, where background information or schemata related to their professional field acts as an important factor in understanding the message (Rost, 2011).

Furthermore, the development of instructional media is a crucial aspect of this study to support the upgrade of students' English ability. Instructional media is a tool that contains messages in auditory and visual form to stimulate thinking, attention, feeling, and wishes, thereby facilitating the teaching and learning process (Sudjana & Rivai, 2003). According to instructional design theories, effective digital media must provide potential advantages such as grabbing students' attention, focusing concentration, and making learning fun through interactivity (Berk, 2009). The use of the ADDIE model (Analyze, Design, Develop, Implement, and Evaluate) in this research ensures that the "K-Quiz" application is systematically designed as a product development concept to construct performance-based learning tailored to mobile platforms (Maribe, 2009).

As an Android-based application, K-Quiz leverages the flexibility of mobile learning. Android is an operating system for mobile devices that includes an operating system, middleware, and key applications, providing a wide platform for educational software development. Mobile learning allows students to access materials anytime and anywhere, which is essential for vocational students who often require repetitive drills to master technical vocabulary (Puspitasari, 2022).

The final pillar focuses on Descriptive Text, which is the core material of the K-Quiz application. Descriptive text is a type of text which lists the characteristics of a person, place, or thing. In the context of culinary arts, descriptive text is used to describe kitchen tools, food ingredients, or restaurant environments. As explained by Tomlinson (2013):

Materials should achieve impact and help learners to feel at ease. In developing materials for listening, the content must be relevant to the learners' needs and interests. For vocational students, descriptive texts provide the linguistic foundation needed to identify and explain objects or processes within their specific professional domain. (p. 95)

3. METHODS

This study employed a Research and Development (R&D) design, which is a systematic research method used to produce a particular product and test its effectiveness

in an educational setting (Sugiyono, 2016). Specifically, the researcher utilized the ADDIE model as the procedural framework to develop the K-Quiz Android Application. According to Branch (2009), the ADDIE model is an iterative and student-centered instructional design process that consists of five essential phases: Analysis, Design, Development, Implementation, and Evaluation. The research was conducted at SMK Negeri 3 Blitar, involving tenth-grade Culinary Art students as the primary subjects for the needs assessment and the subsequent product perception tests. The five phases of the development process are described in detail below.

3.1. Analysis Phase

The initial step involved a comprehensive needs analysis to identify the gap between students' current listening capabilities and the required English proficiency for the culinary industry. Data were collected through field observations and structured interviews with the English teacher and students at SMK Negeri 3 Blitar. The analysis revealed that students faced significant cognitive hurdles in comprehending descriptive texts when presented through conventional media. Furthermore, the analysis highlighted a critical lack of mobile-based learning tools that could provide repetitive auditory practice specifically tailored to vocational vocabulary, such as kitchen equipment and food descriptions.

3.2. Design Phase

Based on the findings from the analysis phase, the researcher designed a systematic blueprint for the K-Quiz application. This phase involved several key activities: constructing a core syllabus focused on descriptive texts, selecting relevant culinary themes (e.g., describing utensils, ingredients, and restaurant settings), and designing the user interface (UI). The design prioritized an interactive flow where students listen to audio recordings and immediately respond to quizzes. This structure was intended to facilitate active listening and provide instantaneous reinforcement, which is vital for vocational learners who require practical and direct feedback.

3.3. Development Phase

In this phase, the conceptual design was translated into a functional "K-Quiz" Android application. The development process included recording high-quality audio materials featuring descriptive monologues, writing corresponding text scripts, and integrating these elements into the Android platform. Following the rigorous procedures by Branch (2009), the prototype underwent a formal validation process by two specialists. The material specialist evaluated the pedagogical content, while the media specialist assessed the technical stability and interface aesthetics. The experts provided scores of 86.6% and 88.5% respectively, categorizing the product as "Highly Valid" and ready for field testing after minor revisions based on their feedback.

3.4. Implementation Phase

The validated K-Quiz application was implemented in a real-world classroom environment at SMK Negeri 3 Blitar. During this stage, tenth-grade Culinary Art students used the application on their personal smartphones to complete listening tasks. This phase was crucial for observing the practicality of the media and measuring student engagement with the culinary-themed materials. The researcher monitored how effectively the mobile platform allowed students to navigate through the descriptive text exercises independently, simulating a flexible learning environment that extends beyond traditional classroom boundaries.

3.5. Evaluation Phase

The final stage focused on assessing the overall quality and impact of the developed media. Evaluation data were gathered through a student perception questionnaire distributed after the implementation phase. The analysis of this data yielded an average score of 92%, reflecting a very positive reception from the learners. This high score indicates that the K-Quiz application is not only a valid instructional tool but also an effective solution for increasing student motivation and mastery of listening skills within the specific domain of culinary arts. The evaluation confirmed that the final product met all predefined educational standards for vocational high school levels.

4. RESULTS

This research produced a detailed analysis of student perceptions and quantitative validation of the "K-Quiz" Android application through its implementation at SMK Negeri 3 Blitar. The findings suggest that the integration of mobile-based learning tools effectively enhances students' engagement and their mastery of descriptive text listening skills in a vocational context.

The following section details the perception from students and the expert validation of the media:

Table 1. Expert Validation and Student Perception Results.

Category	Score / Percentage	Criteria
Material Expert Validation	86.6%	Highly Valid
Media Expert Validation	88.5%	Highly Valid
Student Perception (Field Testing)	92%	Highly Valid

The results in Table 1 indicate that the "K-Quiz" application received a "Highly Valid" rating across all evaluation instruments. The experts emphasized that the culinary-themed materials were pedagogically sound, while the students highlighted the clarity of the audio and the ease of navigating the Android interface.

The data from the perception phase showed a significant positive response in students' engagement. Before using the media, students at SMK Negeri 3 Blitar often struggled with the lack of vocational-specific listening resources. However, after the implementation of "K-Quiz," students reported a substantial increase in their confidence. The average perception score of 92% demonstrates that the Android-based media

effectively helped vocational students understand descriptive oral information through interactive features and industry-relevant vocabulary.

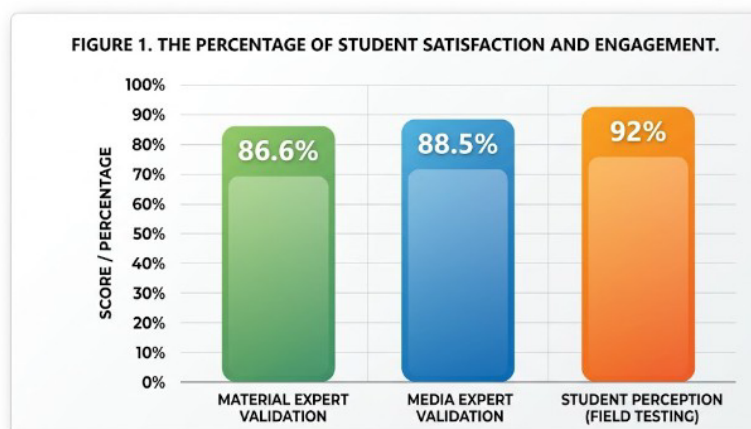


Figure 1. The percentage of student satisfaction and engagement.

5. DISCUSSION

The findings of this study demonstrate that the "K-Quiz" Android application serves as an effective instructional bridge for tenth-grade vocational students, particularly in the Culinary Art department. The positive reception from students, as evidenced by the 92% perception score, suggests that specialized mobile-based media helps clarify the technical and descriptive nature of English vocabulary related to their professional field. This is a significant improvement, considering that identifying oral descriptions of culinary tools and ingredients was previously a major hurdle for students at SMK Negeri 3 Blitar.

The interpretation of these results indicates that the integration of modern technology into vocational English training remains highly relevant. When a Research and Development (R&D) product like "K-Quiz" is well-designed using the ADDIE model, it provides the necessary "auditory scaffolding" that vocational students need. This scaffolding allows them to practice repetitive drills and interactive quizzes that are context-specific, which is essential before they can transition to more complex communicative interactions in a professional kitchen or restaurant setting.

Furthermore, the "Highly Valid" scores from both material (86.6%) and media (88.5%) experts reinforce the idea that instructional media must be student-centered and aligned with the specific vocational curriculum to ensure its success in a real-world classroom environment. This study provides new insights into how Android-based technology can be utilized to address the lack of engaging, industry-relevant media in vocational high schools. By transforming smartphones from a potential distraction into a powerful learning tool, "K-Quiz" offers a practical solution for 21st-century learners to master English listening skills more flexibly and effectively.

6. CONCLUSION

The development of the "K-Quiz" Android application demonstrates that mobile-based instructional media, when integrated into a structured Research and Development

(R&D) design using the ADDIE model, is highly effective for vocational high school students. This study successfully established a validated learning tool that addresses the specific auditory hurdles and the lack of industry-relevant media for Culinary Art students at SMK Negeri 3 Blitar. The positive reception from students, evidenced by a 92% perception score, underscores the value of using context-specific Android applications as a pedagogical bridge to improve listening skills. This research contributes to the field by providing a practical, "Highly Valid" resource (with expert validation scores of 86.6% and 88.5%) that simplifies English descriptive texts through interactive quizzes, thereby increasing learner motivation and mastery of vocational vocabulary.

However, this study has several limitations that should be acknowledged. The research was primarily focused on tenth-grade students within a specific vocational domain, which may limit the generalizability of the findings to other majors or grade levels. Additionally, while the application covers essential descriptive texts for culinary arts, there is still room to expand the content to include more complex situational dialogues and diverse workplace scenarios.

For future research, it is recommended to expand the scope of the material to include a wider variety of vocational contexts beyond descriptive texts and to test the effectiveness of "K-Quiz" across larger demographic groups and different vocational programs. Further development could also involve integrating more advanced features, such as voice recognition or real-time performance tracking, to further align with the evolving technological needs of 21st-century vocational learners.

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